

COMPANY PROFILE 2022

Dear Stakeholders and Potential Partners,

What A turbulent Year 2021 has been for Solar in Namibia and the SADC region at large. The COVID-19 Pandemic had a major impact on energy systems in the country, curbing investments and threatening to slow the expansion of key clean energy technologies.

Overall however, renewable energy has shown strong resistance according to data on monthly installations, awarded contracts, financing of new projects and equity performance.

Households and businesses alike have been forced to make decisions aligned with the "new normal".

The Financially minded will take cognizance of the fact that reducing variable costs to businesses and homes is beneficial over the short and long term, especially with these annual increases.

As a progressive growth company, we look forward to the New Normal 2022 brings, to develop our personnel, to increase our head count, to compete for market-share but most importantly to serve the **needs** of our clients with our Renewable Energy solutions.

Thank you for taking time to review our **Company Profile**.

Yours Sincerely,

Paulus Mulunga, Managing Member
Lights Systems Namibia

Our Scope:

The Design, Installation or Construction
of Solar Photovoltaic Systems and Plants with
Full EPC Project Management

Established in September 2014, the Light Systems Namibia has become a premier service provider in the Renewable Energy industry, offering specialised design and innovation to bring the future power supply systems online.

With over 10 years of project development experience, LSN integrates to match any project framework.

Light Systems Namibia in the News:

"Namibia Should not be
Switching off..." -

"Solar Start-up
Bounces Back..." -



90-96% on
the NEEEP
Framework

Disclaimer

LIGHTS SYSTEMS NAMIBIA CC, (operating as 'Light Systems Namibia,') is a Close Corporation registered in the Republic of Namibia. LIGHTS SYSTEMS NAMIBIA CC may be referred to as "LSN", or the "Company", in the following pages.

Contact Details:

For more Information, to speak to one of our Professionals, get direct Answers to your Questions, Customer Services, Engineering Services, Electrical Services and to Raise Issues, please Contact Us:

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Call: +264 61 555 000

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Lights Systems Namibia Ongwediva

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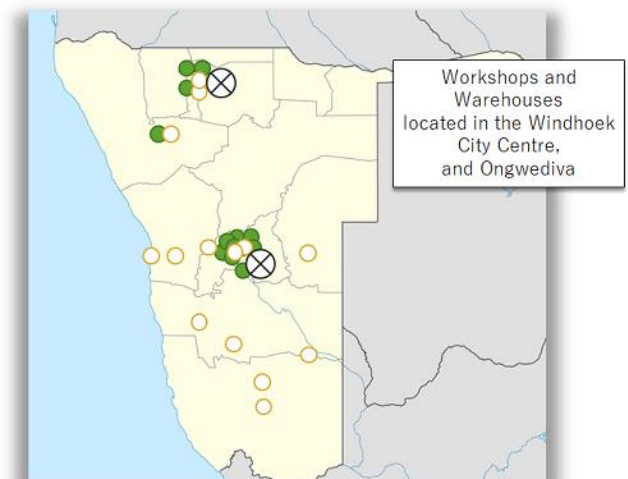
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Registration

P.O Box 26672, Windhoek

Registration: 2014/10472

Contents

Disclaimer.....	2
Contact Details:.....	2
WELCOME TO LIGHTS SYSTEMS NAMIBIA	5
VISION.....	5
MISSION.....	5
DESIGN, INSTALLATION, MAINTENANCE & PROJECT MANAGEMENT	6
DESIGN.....	6
INSTALLATION	6
MAINTENANCE	7
PROJECT MANAGEMENT	7
PRODUCT AND SERVICE STRATEGY	8
SOLAR OFF-GRID SYSTEMS	9
SOLAR GRID-TIED SYSTEMS	10
SOLAR HYBRID SYSTEMS	11
SOLAR POWERED STREET LIGHTS	12
SOLAR POWERED BOREHOLE SYSTEMS	13
SOLAR WATER HEATERS	14
PROVEN TRACK RECORD	15
CUMMULATIVE FIGURES:.....	15
PROJECT DEVELOPMENT EXPERIENCE	16
SUMMARY OF KEY PROJECTS	21
OKAVANGO RIVER BRIDGE - BOTSWANA.....	21
GIZ NAMIBIA HEAD OFFICE	23
CONTRACT FOR CONSTRUCTION (FIDIC): Refurbishment of 5MW Outapi Solar PV Plant.....	24
OMAHEKE REGIONAL COUNCIL	26
DOLPHIN SUPERMARKET	28
NAMPOL: FARM HADALOA, OTJOZONDJUPA REGION	29
NEW HEADQUARTERS OF MINISTRY OF HOME AFFAIRS AND IMMIGRATIONS	30
NGSIP BRANDBERG TOURISM AND CULTURAL CENTRE	31
SUB-CONTRACTED TO GO SOLAR INVESTMENT CC	32
SOLAR SYSTEMS FOR 2 RURAL SCHOOLS IN ZAMBEZI REGION	33
NAMIBIA HOUSING ACTION GROUP (NHAG)	35
SUPPLY AND DELIVERY OF SOLAR WATER PUMPS FOR SMALL SCALE HORTICULTURAL FARMERS IN ZAMBEZI REGION	36

SUPPLY & INSTALLATION OF SOLAR (PVC) WATER PUMP SYSTEMS AND PARTS, WITHIN THE KHOMAS REGION	39
SUPPLY & INSTALLATION OF SOLAR (PVC) WATER PUMP SYSTEMS, 10,000L TANKS AND TANKS STANDS, IN THE OHANGWENA REGION	42
SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF SOLAR POOL HEATING COLLECTORS AND ELECTRIC BACK-UP POOL HEAT PUMP TO IPI COLLEGE INDOOR SWIMMING POOL	45
OFFSHORE DEVELOPMENT COMPANY	47
MACRO-PROJECT SKILLS & COMPETENCIES	48
SAFETY	49
A SHOWCASE OF LOCAL CAPACITY	49
REGISTRATION WITH RELEVANT AUTHORITIES	50
LIST OF APPROVED & REGISTERED INSTALLERS AND SUPPLIERS WITH NTCRE / TC1.....	50
SAFETY RULES AND PROCEDURES FOR CONTRACTORS	51
SAFETY & MOTIVATION AT LIGHTS SYSTEMS NAMIBIA:	51
PEER-TO-PEER SAFETY IN THE BUDDY SAFETY SYSTEM	52



*LIGHTS SYSTEMS NAMIBIA IS A RENEWABLE ENERGY COMPANY
FOCUSED ON SUSTAINABLE SOLUTIONS.*

*LIGHTS SYSTEMS NAMIBIA DESIGNS, INSTALLS AND MAINTAINS SOLAR
SOLUTIONS; AND WE COLLECT DATA. WE USE THIS DATA TO DRIVE INNOVATION
AND OPTIMISE THE APPLICATION OF THE WORLD'S LEADING TECHNOLOGIES TO MEET
LOCAL DEMANDS & CONDITIONS. WELCOME TO LIGHTS SYSTEMS NAMIBIA!*

WELCOME TO LIGHTS SYSTEMS NAMIBIA

We are often asked "What drives your company to be a leading renewable energy company?"

Our response is generally along the lines that the Sun's Irradiance is our most abundant resource in Namibia. And when we look at comparable advantages of economies, Namibia's sun is amongst the best in the world – and this is coupled with a temperate climate with relatively low humidity and very little pollution, as it stands. What this means is that we are capable of producing the most cost-effective electricity in the world.

We were attracted to the challenge of bringing Solar Photovoltaic Systems to market in Namibia. "Why aren't there solar panels on every roof in Namibia?", we pondered. Lights Systems Namibia is a response to that challenge and in the years to come, will exceed even these expectations.

Along this journey, we faced the difficulties – small and large – to bring more solar on line in Namibia, and learned the ropes in what is still an infant industry.

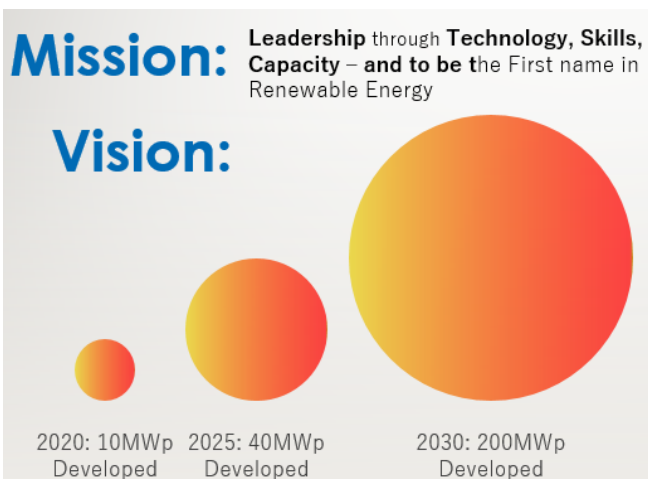
With valuable experience now behind us, improved capacity and a commendable project portfolio, we look to continue the pursuit of growth in 2020 and beyond.

VISION

Lights Systems Namibia aims to be the first household in Renewable Energy in Namibia. To achieve this, the Company will invite the public to engage us in Dialogue, facilitated by our omnipresence and accessibility. Clients of Lights Systems Namibia will receive the highest quality service and will receive the best in design and workmanship.

MISSION

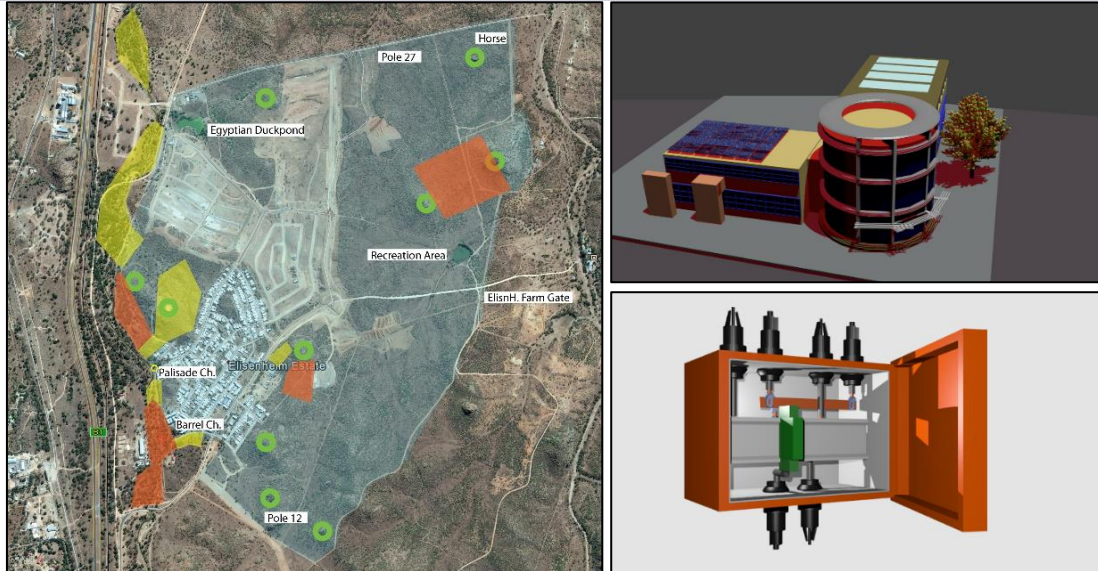
Our Mission is to make Renewable Energy and Integrated Power Technologies accessible to Namibian individuals and enterprises. We will do this with the client at the centre of our organisation, upholding the highest standards and pioneering applications that deliver measurable results.



DESIGN, INSTALLATION, MAINTENANCE & PROJECT MANAGEMENT

Lights Systems Namibia delivers a professional service throughout the Solar PV procurement process, with equally as thorough processes for all scales of projects. These include our comprehensive 24-Month Lights Field O&M agreement that comes standard with our offerings.

DESIGN



Our multidisciplinary team take client-specific data to deliver unparalleled-value for clients, developers, owners and other stakeholders. Lights Systems Namibia prides itself on Design and we deliver Systems that are the leading performers in terms of Yields, Quality and Financial Performance.

INSTALLATION



With the mechanical, electrical and associated regulatory considerations handled during the design phase, our team of seasoned and qualified installers begin to bring the project to life. Lights Systems Namibia relies on accurate decision-making from our technicians, ever-present oversight and other quality control factors to ensure: 1) Safe Working Environments, and 2) Schedule Adherence. To achieve these services features, we practise correct preparation and work to achieve daily goals and hurdle-rates.

MAINTENANCE



LSN customers get the benefits of having our team of highly trained personnel maintain solar installations, monitor performance through our developed technologies, and continuously strive to increase energy efficiency. We strive to achieve the ISO 550001 standard in Asset Management and select amongst world-leading frameworks (such as Value-Driven Maintenance) to lower running costs and reduce risk.

PROJECT MANAGEMENT



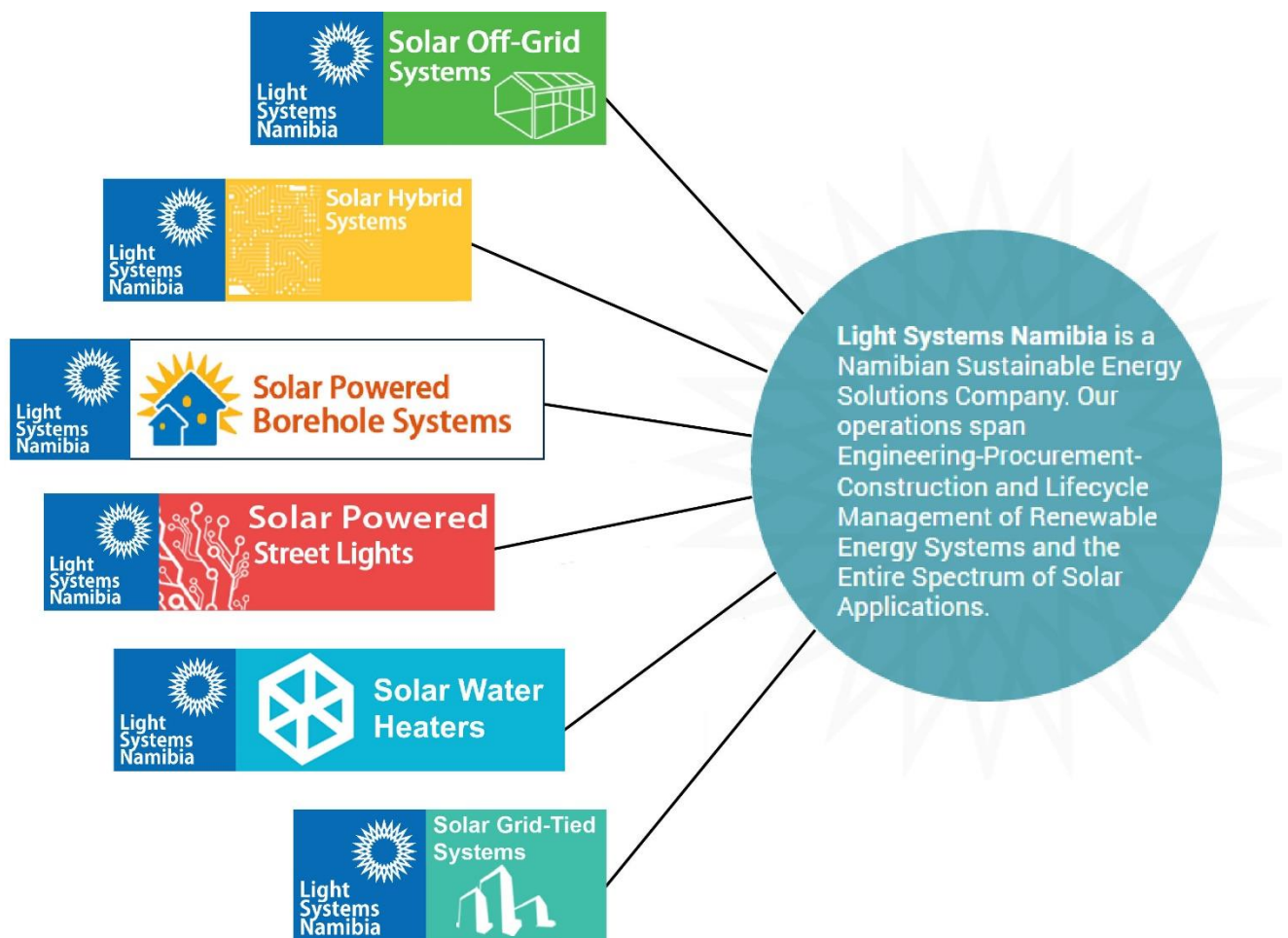
We clearly distinguish between quality and convenience in design and installation – our rule is that quality should compromise convenience, and vice-versa. But the experience of building professionals and contractors dictates otherwise -compromise is more than often required to meet deadlines and overcome the unforeseen – it is an unspoken truth. With regard to our solutions, that is never the case because our installation sites are not-dynamic, all project phases are clearly defined and planned – and supported by a regionally competitive supply chain. Our warehousing facilities include 600sqm of space between two facilities – Windhoek and Ongwediva.

PRODUCT AND SERVICE STRATEGY

Lights Systems Namibia products and services include:

- SOLAR OFF-GRID SYSTEMS
- SOLAR GRID-TIED SYSTEMS
- SOLAR HYBRID SYSTEMS
- SOLAR POWERED STREET LIGHTS
- SOLAR WATER HEATERS
- SOLAR POWERED BOREHOLE SYSTEMS

These Products and services are provided in the following **segments**:



SOLAR OFF-GRID SYSTEMS



Solar Off-Grid Systems are systems that are not connected to the Electricity Grid and therefore require Battery Storage to operate. Solar Off-Grid Systems are ideal when utility power is unavailable or too expensive to bring to your home. Lights Systems Namibia designs Solar Off-Grid Systems that

generate enough power to power appliances throughout the year to meet a households requirements even during the winter period when there is less sunlight.

Solar Off-Grid Systems stores DC electricity in batteries. The inverter allows this system to convert DC electrical current coming from the batteries into AC or alternating current. AC is the standard form of electricity for anything that "plugs in" to utility power and is the appropriate current for common household appliances.

A typical Home installation includes: Solar Panels, LSN's Efficient Inverter, Railing System, a Geyser controller, and a Safe Installation.

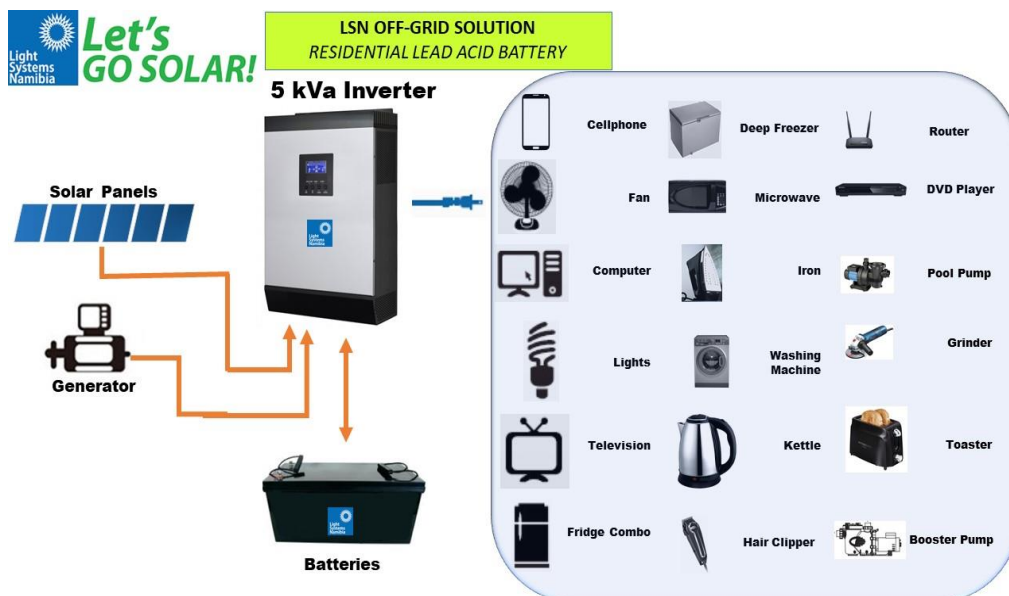


Fig.1 A Solar Off-Grid Line Diagram.

SOLAR GRID-TIED SYSTEMS



Solar Grid-Tied Systems are systems that are connected to the Electricity Grid and do not require Battery Storage to operate. Any solar power that you generate from a Grid-Tied system which is not used directly in your home is exported into the electricity grid and you

usually get credited with a feed-in-tariff (FiT) for the energy your Grid-Tied System exports

Solar Grid-Tied System are for households/Business who are (or will be) connected to the Grid (Via a utility or distributor company) and plan to use the Grid to supplement what they are able to make with renewable energy sources like the sun. The shortfall of a Grid-Tied System is that when the Grid goes down, your house/Business is also without electricity.



Fig.2 A typical Solar Grid Tied Installation.

SOLAR HYBRID SYSTEMS



Solar Hybrid Systems combine solar and battery storage in one and are now available in many different forms and configurations. Due to the decreasing cost of battery storage, systems that are already connected to the electricity grid can start taking advantage of battery storage as well.

This means being able to store solar energy that is generated during the day and using it at night. When the stored energy is depleted, the grid is there as a backup, allowing consumers to have the best of both worlds.

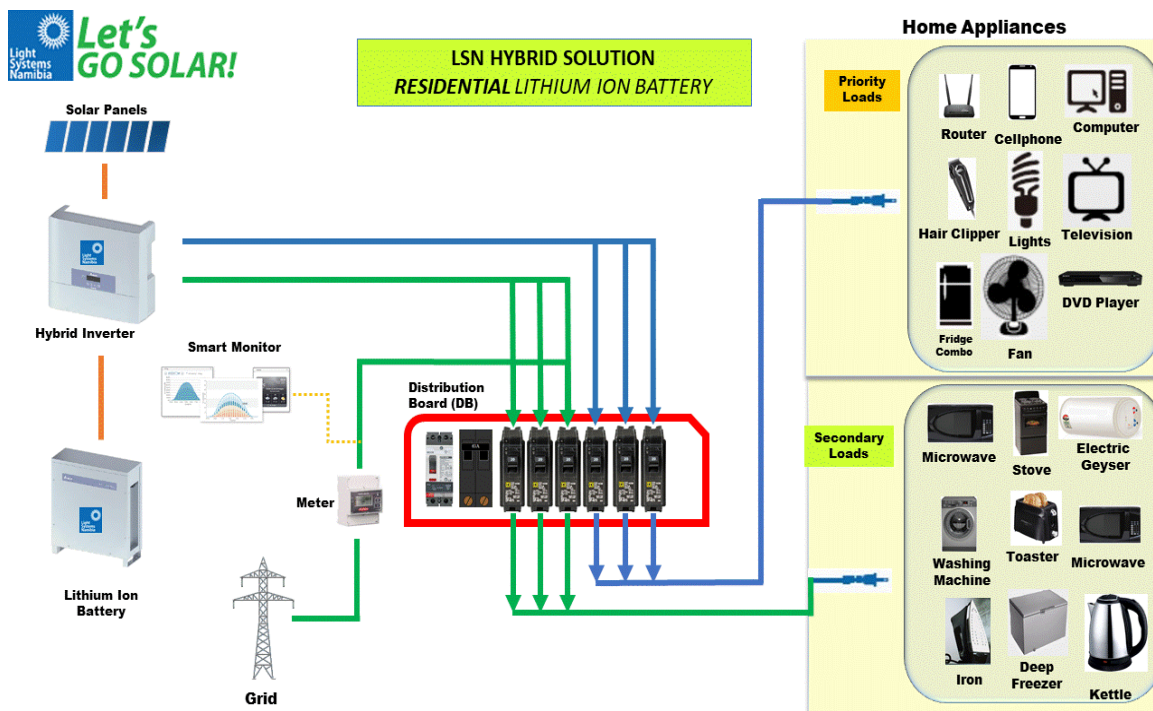


Fig.3 A Solar Hybrid System Line Diagram

SOLAR POWERED STREET LIGHTS



Solar Powered Street Lights are extensively used for outdoor street lighting. The Street Light operates on stand-alone mode, eliminating the need for a general grid of any power requirements. They can operate at night because the sun provides needed energy during the day.

These lights automatically turn on when it is programmed to sense any motion. They also operate during the cloudy weather conditions and provide reliable lighting anytime. These Solar LED street lights require less system for installation and also provide high power lighting when compared to conventional lighting. It also offers shelf-life and minimal maintenance.



Fig.4 A typical Solar Street Light Installation

SOLAR POWERED BOREHOLE SYSTEMS



Solar Powered Borehole Systems are extensively used for wells, boreholes, water transfer, cattle & livestock watering and irrigation. These Borehole Systems allow vital water resources to be accessed in remote rural locations.

Most solar water pumping applications don't use batteries, the water is simply pumped when there is enough daylight. The water is often pumped into a large raised storage tank, enabling access to water whenever needed.

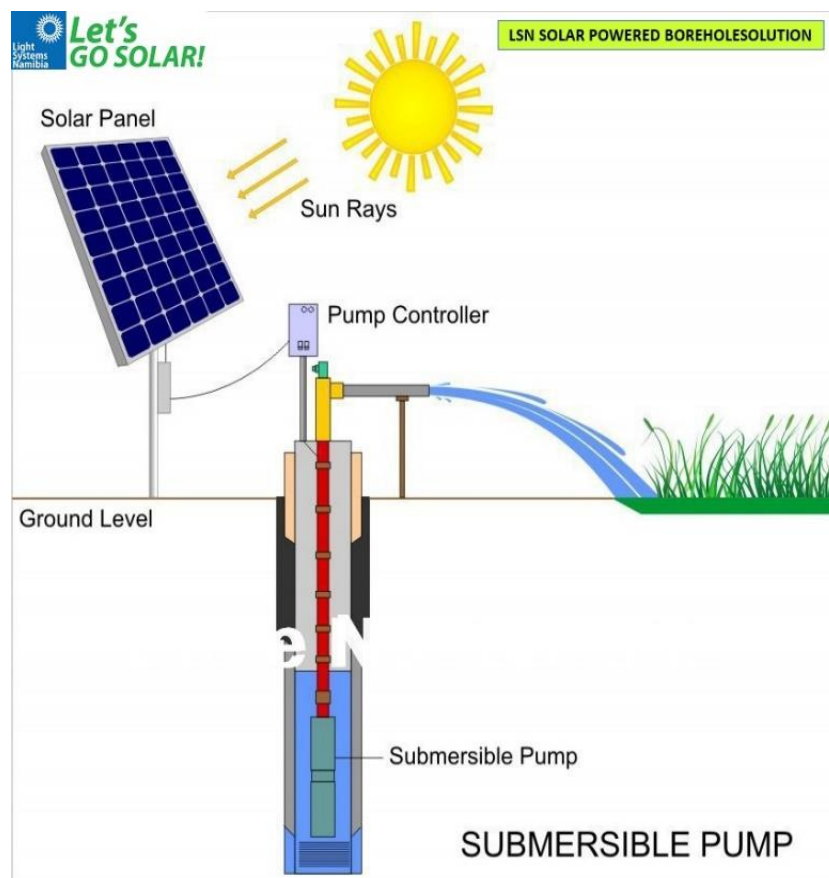


Fig.5 A typical Solar Powered borehole system Installation.

SOLAR WATER HEATERS



Solar Water Heaters (SWH) use sunlight to warm water. Heating water using conventional methods is very expensive as it requires a huge amount of energy. Solar Water Heaters are a great way to reduce energy costs associated with heating water. The sun's energy is used to heat water

which is stored in a hot water tank and drawn on when required.

Lights Systems Namibia provides a number of SWH products that come in different sizes to meet different needs. Most of these products have electrical Back-up to be used during cloudy days and at night if required.

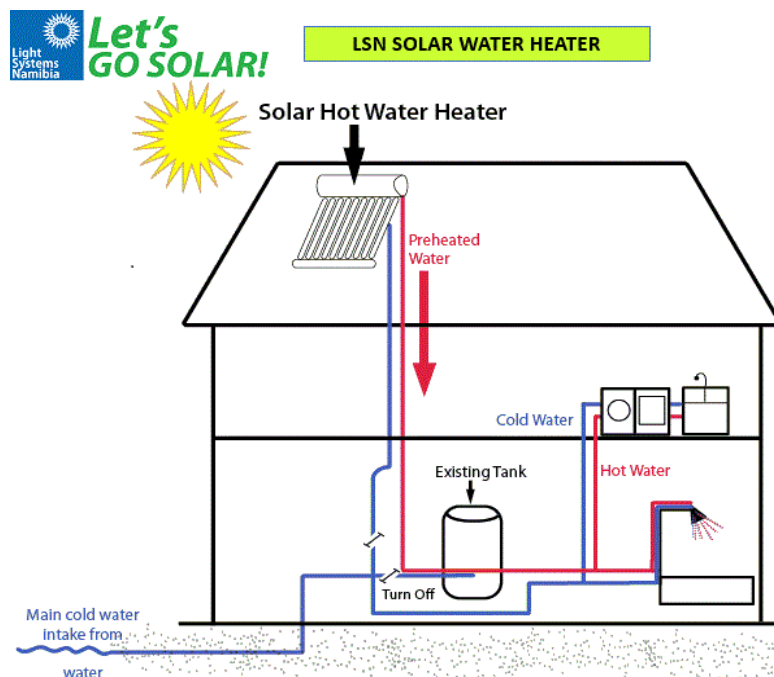


Fig.6 A typical Solar Water Heater Installation.

PROVEN TRACK RECORD

Quality Solar PV Installations require particular attention to work environment, understanding optimal installation KPIs and other radical factors that separate it from General solar installations. LSN has worked on a number of projects that are aligned to the company's vision. These projects required extensive Electrical Experience and Knowledge to pull off and the LSN team has managed to carry out these projects successfully.

CUMMULATIVE FIGURES:

- LSN together with its partners have more than 60 years of Experience,
- 5MW installations worth of Experience,
- More than 40 individual Sales and Installations, and
- Experience working at 5MW Solar Plant, 2 Large Estates and 5 Industrial Sites

Combined Experience



Solar PV Plants

5MW
in Namibia



Project Management

60 Years
In Total +N\$72m Project
experience - an
average of 11 years



People + Capacity

8
Professionals

1 Master Degree Holders
2 Chartered Accountants
4 Professional Engineers
9 Trainee Engineers

PROJECT DEVELOPMENT EXPERIENCE

A list of key projects carried out by Lights Systems Namibia are listed.

YEAR	DESCRIPTION	CLIENT	CONSULTANT	COMPLETION TIME
2022	Okavango River Bridge, Botswana: Design and Installation of 30kWac Off-Grid System	Government of Botswana – Roads Department	QED Consulting Engineers Mosalagae D. Motshwane Tel: +267 397 3727 Email: mdmotshwane@qed.co.bw	2022
2022	(GIZ) GmbH Head Office Namibia 13.6kW Grid Tied System	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH – Namibia	Engco Consulting Engineers Sanyambe Lukubwe Tel: +264 811 298 548 Email: civil1@engcoeng.com	2022
2021	CONTRACT FOR CONSTRUCTION (FIDIC): Refurbishment of 5MW Outapi Solar PV Plant <i>(Connecting 1.6MWp New Modules, connecting 21 X 60kW Inverters, Restrunging between 78 X 60kW old inverters, relocating 78 X 60kW Inverters, Laying New AC Cables, Commissioning of the Plant, etc.)</i>	CAMELTHORN BUSINESS VENTURE NO TWO (PTY) LTD	Innosun Africa Jan-Barend Scheepers Tel: +264 61 254 700 Email: jbscheepers@innosun.org	2021
2020	(SPECIALIST INTALLATIONS) IN WORK OF SUPPLY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF THE PHOTOVOLTAIC (PV) SOLAR SYSTEM INSTALLATIONS. FOR THE CONSTRUCTION OF THE OMAHEKE REGIONAL GOVERNMENT PARK SITUATED IN GOBABIS FOR THE OMAHEKE REGIONAL COUNCIL	OMAHEKE REGIONAL COUNCIL	OM'KUMOH Consulting Engineers Johannes Nelondo Tel: +264 61 232 052 Email: nelondoj@omkumoh.com	2021
2020	Supplying, Delivery and Installation of OFFGRID Solar Photovoltaic System at Bravo Gate Police Station, OSHIKOTO Region: Namibian Police Force	MINISTRY OF HOME AFFAIRS, IMMIGRATION, SAFETY AND SECURITY	Procurement and Logistics Directorate Comm. Andreas Nelumbu Tel: +264 61 209 3433	2020

			Email: ANelumbu@Nampol.na	
2020	Supplying, Delivery and Installation of OFFGRID Solar Photovoltaic System for Police Members Accommodation at Farm HADALOA, OTJOZONDJUPA Region: NAMIBIAN POLICE FORCE	MINISTRY OF HOME AFFAIRS, IMMIGRATION, SAFETY AND SECURITY	Procurement and Logistics Directorate Comm. Andreas Nelumbu Tel: +264 61 209 3433 Email: ANelumbu@Nampol.na	2020
2020	RESTRICTED BIDDING FOR WORKS: SUPPLY AND INSTALLATION OF SOLAR WATER PUMPS & SUPPORTING INFRASTRUCTURE WITHIN THE KHOMAS REGION.	Khomas Regional Council	Project Co-Ordinator Nikita Mbarandongo Tel: +264 (61) 292 4370 Cell: +264816401156 nmbarandongo@khomasrc.gov.na	2020
2020	SUPPLY AND DELIVERY OF SOLAR WATER PUMPS FOR SMALL SCALE HORTICULTURAL FARMERS IN ZAMBEZI REGION	The Environmental Investment Fund of Namibia	Project Co-Ordinator Mkwetu Mweutota Tel: +264 (61) 208 7002 Cell: +26481 159 8520 mmweutota@EIF.ORG.NA	2020
2019	Construction of New Headquarters of Ministry of Home Affairs and Immigrations Supply, Installation and Commissioning of 66.3kWp Solar Photovoltaics (PV) Electrical Generation System	Ministry of Works and Transport	Denchi Consulting Engineers (Asser Shinana: Tel: +264 (61) 228183 Asser.Shinana@denchi.com.na)	2020
2019	RESTRICTED BIDDING FOR WORKS: SUPPLY & INSTALLATION OF SOLAR (PVC) WATER PUMP SYSTEMS AND PARTS , WITHIN THE KHOMAS REGION	Khomas Regional Council	Project Co-Ordinator Nikita Mbarandongo Tel: +264 (61) 292 4370 Cell: +264816401156 nmbarandongo@khomasrc.gov.na	2019
2019	Supply and Installation of Off-Grid Solar Systems for 2 Rural Schools in Zambezi Region	Hanns Seidel Foundation Namibia	Rodney Seibeb Project Coordinator Hanns-Seidel Foundation Namibia	2019

			Tel: +264 61 23 73 73 Email: pren_project@hsf.org.na	
2019	RESTRICTED BIDDING FOR WORKS: SUPPLY & INSTALLATION OF WATER TANKS WITHIN THE KHOMAS REGION	Khomash Regional Council	Project Co-Ordinator Nikita Mbarandongo Tel: +264 (61) 292 4370 Cell: +264816401156 nmbarandongo@khomasrc.gov.na	2019
2019	Supply, Delivery, Installation, Testing and Commissioning of Solar Pool Heating Collectors and Electric Back-up Pool Heat Pump to IPI College Indoor Swimming Pool	Ministry of Safety and Security	Denchi Consulting Engineers Hendrick Shaimange Tel: +264 (61) 228183 Hendrick.Shaimange@denchi.com.na	2019
2018	6 kW Grid-Tied System	Namibia Housing Action Group (NHAG)	Namibia Housing Action Group Heinrich Amushila Mozart street. 11 Windhoek West 061239398, hanhag@iway.na	2018 (2 weeks)
2018	5 kW Grid-Tied System	Dorado Private School Shyam Singh +264 812772053	Dorado Private School P. O. Box 98845 Pelican Square, Windhoek Shyam Singh +264 812772053 ssingh5121953@gmail.com	2018 (1 weeks)
2018	20kW Grid-Tied System	Sub-Contracted to Go Solar Investment CC	Go Solar Investment CC P.O. Box 398Okavango Street Road 67Grootfontein, Namibia+264 81 141 4107 gosolarcc@gmail.com	2018 (3 weeks)
2018	40 kW Grid-Tied System	Sub-Contracted to Go Solar Investment CC	Go Solar Investment CC	2018 (6 weeks)

			P.O. Box 398Okavango Street Road 67Grootfontein, Namibia+264 81 141 4107 gosolarcc@gmail.com	
2018	Install Solar Water Heaters	ONGWEDIVA AGRICULTURAL TECHNOLOGY CENTER PROJECT	Supeco Trading Abel Nekwaya +264 818606477	2018
2018	Remedial Work on the Installed Solar Geysers at houses at the Musesse Irrigation Project	Ministry of Agriculture, Water and Forestry	Burmeister and Partners (PTY) Jaco Linde +264 61 379 024 jaco@burmeister.com.na	2018
2017	10kW Off-Grid System	Ûibasen Twyfelfontein Conservancy	Ûibasen Twyfelfontein Conservancy (Brisetha Hendricks Tel: +264 (81) 340 0196 brisetha.hendricks@aiesec.net)	2017 (2 weeks)
2017	30kW Off-Grid System	Ministry of Agriculture, Water and Forestry	Denchi Consulting Engineers (Asser Shinana: Tel: +264 (61) 228183 Asser.Shinana@denchi.com.na)	2017 (8 weeks)
2017	25kW Off-Grid System	NGSIP Brandberg Tourism and Cultural Centre	COSMO CONSTRUCTION & CIVILS cc (Julian Viljoen Tel: +264 (64) 221 260 julian@swakop-mund.com)	2017 (3 weeks)
2017	Replacement of 6 x old Residential Solar Water Heaters with new ones for Namwater houses in Ogongo Omusati Region	Betonstein Contruction (Pty) Ltd & Namwater	Betonstein Contruction (Pty) Ltd & Namwater Mr Shoopala +264 81 150 0775	2017
2016	50kW Grid-Tied System	Aldan Cloete: Owner: Dolphin Supermarket	Aldan Cloete: Owner: Dolphin Supermarket Dolphin Supermarket Rehoboth	2016 (6 weeks)

		0812860123	aldan@iway.na 0812860123	
2016	6kW Grid-Tied System	Offshore Development Corporation (ODC)	Burmeister & Partners (Pty) Ltd (Hendrik Boshoff Tel: +264 (61) 379 000 hboshoff@burmeister.com.na)	2016 (1 week)
2014 to Current	Solar Revolving Fund Clients	Ministry of Mines and Energy	Ministry of Mines and Energy (SRF) Ishuna Niita Amakutsi Project Finance Officer, 6 Aviation Road Tel: 061 284 8171, Fax: 061 236 702 Email: Ishuna.Amakutsi@mme.gov.na	2014 to Current

These are a selected few amongst a host of many.

SUMMARY OF KEY PROJECTS

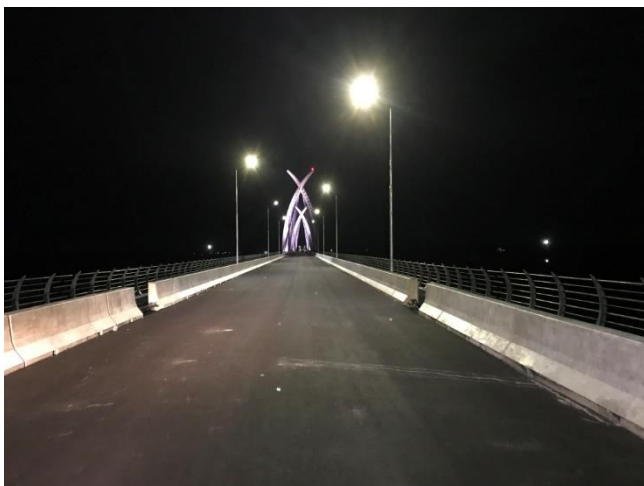
A summary of key projects with brief description of each project is provided below.

OKAVANGO RIVER BRIDGE - BOTSWANA

Lights Systems Namibia installed a 30kW Solar Off-Grid PV system at the Okavango Bridge in Mohembo Village to power the street lights on the bridge. The system is exclusively designed to power the bridge and street lights only, which primarily nighttime loads on the system.

Project	Year	Size	Description	Client
Okavango River Bridge, Botswana: Design and Installation of 30kWac Off-Grid System	2022	30 kW	Design and install	Government of Botswana – Roads Department





GIZ NAMIBIA HEAD OFFICE

Light Systems Namibia installed a 13.6kW Grid-Tied system at the GIZ Namibia Head office in Windhoek. GIZ as an organization that promotes sustainable solutions decided to install the system to showcase the potential solar resources that Namibia has as well as reduce its carbon footprint by having an environmentally friendly resource to power the office electricity needs.

Project	Year	Size	Description	Client
(GIZ) GmbH Head Office Namibia 13.6kW Grid Tied System	2022	13.6 kW	Install	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH – Namibia



CONTRACT FOR CONSTRUCTION (FIDIC): Refurbishment of 5MW Outapi Solar PV Plant

Lights Systems Namibia was appointment by Camelthorn Business Venture No Two (Pty) Ltd to refurbish their 5MW Solar Plant at Outapi, Omusati Region. The work involved was complex and involved Connecting 1.6MWp of New Bi-Facial Panels, connecting 21 X 60kW new Inverters at the plant, Restrunging between inverters as some inverters got more strings, other had strings removed, relocating all 78 X 60kW Inverters to face a certain direction, Laying of New AC Cables to the control room from the solar park, installing DC combi boxes for the new inverters and Commissioning of the Plant.

Project	Year	Size	Description	Client
CONTRACT FOR CONSTRUCTION (FIDIC): Refurbishment of 5MW Outapi Solar PV Plant	2021	5MW	Connecting 1.6MWp New Modules, connecting 21 X 60kW Inverters, Restrunging between 78 X 60kW old inverters, relocating 78 X 60kW Inverters, Laying New AC Cables, Commissioning of the Plant, etc	CAMELTHORN BUSINESS VENTURE NO TWO (PTY) LTD





OMAHEKE REGIONAL COUNCIL

Lights Systems Namibia's largest Grid-Tied installation to date is this particular project that was carried out in the Omaheke Region. The system was installed at the regional Council's new Campus building. The system is registered with the Gobabis municipality and the regional council is able to manage their operational costs. The system uses Monocrystalline Panels with SMA Core 1 inverters. System is optimized to provide maximum power early in the morning at late in the evenings.

Project	Year	Size	Description	Client
Omaheke Regional Council 192kWp Grid-Tied System	2021	192 kW	EPC	Omaheke Regional Council





DOLPHIN SUPERMARKET

Light Systems Namibia installed a 50kW Grid-Tied system at Dolphin Supermarket in Rehoboth. Dolphin Supermarket is one of Rehoboth's most popular supermarket which operates for up to 12 hours a day. This has put a huge electricity constrain for the owner Mr. Aldan Cloete. He decided to have this 50kW system installed to reduce his expenditure by 40 to 55%.

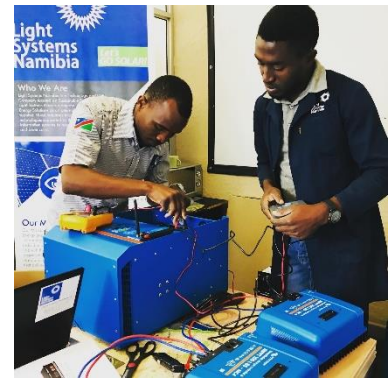
Project	Year	Size	Description	Client
Dolphin Supermarket 50kWp Grid-Tied System	2016	50 kW	EPC	Dolphin Supermarket



NAMPOL: FARM HADALOHA, OTJOZONDJUPA REGION

Lights Systems Namibia installed a 16kW OFF-Grid system at Farm Hadaloha in the Otjozondjupa Region for NAMPOL. The system has Lithium-Ion Batteries for storage as well as a number of Solar Water Heaters.

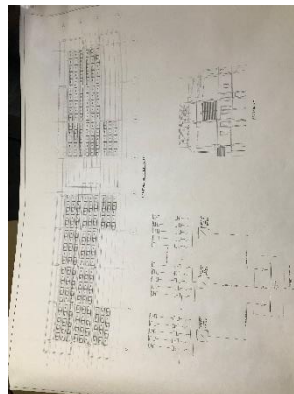
Project	Year	Size	Description	Client
Supplying, Delivery and Installation of OFFGRID Solar Photovoltaic System	2020	16 kW	Supply and Install	NAMPOL



NEW HEADQUARTERS OF MINISTRY OF HOME AFFAIRS AND IMMIGRATIONS

Lights Systems Namibia was appointed contractor for the Construction of New Headquarters of Ministry of Home Affairs and Immigrations Supply, Installation and Commissioning of 66.3kWp Solar Photovoltaics (PV) Electrical Generation System

Project	Year	Size	Description	Client
Supply, Installation and Commissioning of 66.3kWp Solar Photovoltaics (PV)	2020	66.3kWp	Supply, Installation and Commissioning	HOME AFFAIRS Ministry



NGSIP BRANDBERG TOURISM AND CULTURAL CENTRE

Lights Systems Namibia was appointed Solar Contractor to install OFF-GRID Solar Systems at the NGSIP Brandberg Tourism and Cultural Centre.

Project	Year	Size	Description	Client
NGSIP Brandberg Tourism and Cultural Centre	2017	25 kW	Supply and Install	COSMO CONSTRUCTION & CIVILS cc



SUB-CONTRACTED TO GO SOLAR INVESTMENT CC

Lights Systems Namibia GO SOLAR, a Solar Company based in Grootfontein to install a number of Grid Tied Systems.

Project	Year	Size	Description	Client
Sub-Contracted to Go Solar Investment CC	2018	40 kW	Subcontract Install	Go Solar Investment CC



SOLAR SYSTEMS FOR 2 RURAL SCHOOLS IN ZAMBEZI REGION

Lights Systems Namibia had the privilege to Supply and Install Off-Grid Solar Systems at 2 Rural Schools in the Zambezi Region. The project is funded by the HANNS SEIDEL FOUNDATION.

The Solar Systems provide lighting which enables the learners to study well into the evening hours. The systems include highly efficient Grade A Solar Panels, quality Victron Inverters and State of the Art Lithium Ion Batteries which offer plenty of advantages of Lead Acid Batteries. The Systems have Remote monitoring in place made possible with the integrated Victron GX Color Controller.

The systems have been configured to protect against battery overuse by shutting themselves off if the batteries reach a state of charge of about 20% which extend the lifespan of the batteries. The system Automatically switches back on once a charge is detected.

The systems will be officially inaugurated by November 2019.

Project	Year	Size	Description	Client
Solar Systems For 2 Rural Schools in Zambezi Region	2019	6 kW	Supply and Install	HANNS SEIDEL FOUNDATION



NAMIBIA HOUSING ACTION GROUP (NHAG)

Lights Systems was appointed to install a 6kW Grid Tied Demonstration system for the Namibia Housing Action Group.

Project	Year	Size	Description	Client
6 kW Grid-Tied System	2018	6 kW	Supply and Install	Namibia Housing Action Group (NHAG)



SUPPLY AND DELIVERY OF SOLAR WATER PUMPS FOR SMALL SCALE HORTICULTURAL FARMERS IN ZAMBEZI REGION

Namibia's northern small-scale subsistence farming communities are vulnerable to climate-related challenges as incidents of drought and high temperatures increase. The communities in Zambezi, Kavango East and West are dependent on primary production and natural resources, rely on rain-fed (dry land crop production) agriculture, and have limited livelihood options and employment opportunities. These communities experience high levels of poverty, and climate change is expected to lead to reduced crop yields, loss of ecosystems services (such as water purification and biomass energy) and ecosystem degradation.

The Climate Resilient Agriculture in the three Vulnerable Extreme (CRAVE) Project, funded by the Green Climate Fund (GCF) over a period of 5 years aims at increasing the climate resilience and reducing the food insecurity of subsistence farmers in Namibia. It targets the vulnerable north eastern small-scale subsistence farming communities in Zambezi, Kavango East and Kavango West Regions.

The In 2020, Lights Systems Namibia was assigned a project to install 12 boreholes in the Zambezi Region under the CRAVE project.

Below are a few specifications about the project:

Number of Boreholes: 12

Year	Description	Client	Consultant	Value	Completion Time
2020	SUPPLY AND DELIVERY OF SOLAR WATER PUMPS FOR SMALL SCALE HORTICULTURAL FARMERS IN ZAMBEZI REGION	The Environmental Investment Fund of Namibia	National Project Manager Mkwetu Mweutota Tel: +264 (61) 208 7002 Cell: +26481 159 8520 mmweutota@EIF.ORG.NA	N\$ 900,000	2020

Contact Person(s):

Mkwetu Mweutota

The Environmental Investment Fund of Namibia

National Project Manager

Tel: +264 (61) 208 7002

Cell: +26481159 8520

mmweutota@EIF.ORG.NA





SUPPLY & INSTALLATION OF SOLAR (PVC) WATER PUMP SYSTEMS AND PARTS, WITHIN THE KHOMAS REGION

In 2019, an assessment undertaken by the Khomas Regional Council in Windhoek Rural areas revealed the constituency faces a water shortage for humans and livestock while boreholes are dry or have low water yield capacity.

The Khomas Regional Council with financial assistance from the Ministry of Agriculture, Water and Forestry undertook a project to install and rehabilitate a number of boreholes in the region to address the challenge of water sources.

The project included the installation of a number of solar systems for replacement of faulty engines at 3 Farm Areb, 2 Farm Nauapoort, 1 Farm Versailles, 4 Satanslaught Post 2, 3, 4, 5; as well as the construction of 4km water pipelines at Satanslaught.

Lights Systems Namibia was appointed to carry out this project.

Below are a few specifications about the project:

Number of Boreholes: 8

Number of Tanks and Tanks Stands: 5

Number of Farmers benefiting from Project: 271

Year	Description	Client	Consultant	Value	Completion Time
2019	RESTRICTED BIDDING FOR WORKS: SUPPLY & INSTALLATION OF SOLAR (PVC) WATER PUMP SYSTEMS AND PARTS, WITHIN THE KHOMAS REGION	Khomas Regional Council	Project Co-ordinator Nikita Mbarandongo Tel: +264 (61) 292 4370 Cell: +264816401156 nmbarandongo@khomasrc.gov.na	N\$ 700,000	2019

Contact Person(s):

Nikita Mbarandongo

Khomas Regional Council

Project Coordinator

Tel: +264 (61) 292 4370

Cell: +264816401156

nmbarandongo@khomasrc.gov.na





SUPPLY & INSTALLATION OF SOLAR (PVC) WATER PUMP SYSTEMS, 10,000L TANKS AND TANKS STANDS, IN THE OHANGWENA REGION

In 2017, The Oukwanyama Traditional Authority undertook a project to install a solar Borehole system at Odombe Yongwena village in the Ohangwena Region. The system comprised of a Grundfos Pump installed at a depth of 110m, 8 Solar Modules, 2 X 5M Water troughs and 2 X 10,000L Tanks.

Lights Systems Namibia was appointed to carry out this project.

Year	Description	Client	Consultant	Value	Completion Time
2017	SUPPLY & INSTALLATION OF SOLAR (PVC) WATER PUMP SYSTEMS, 10,000L TANKS AND TANKS STANDS, IN THE OHANGWENA REGION	Oukwanyama Traditional Authority	Project Co-ordinator Tatekulu Goerge Nelulu Tel: +264 (65) 260084 Cell: +26481 2796930 nelulu@meduletu.com	N\$ 200,000	2017

Contact Person(s):

Tatekulu Goerge Nelulu

Oukwanyama Traditional Authority

Project Coordinator

Tel: +264 (65) 260084

Cell: +26481 2796930

nelulu@meduletu.com





SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF SOLAR POOL HEATING COLLECTORS AND ELECTRIC BACK-UP POOL HEAT PUMP TO IPI COLLEGE INDOOR SWIMMING POOL

In 2019, The Ministry of Safety and Security undertook a project to refurbish a Solar System that is used to heat their 1,000,000L Swimming pool at one of their police colleges. Lights Systems Namibia was appointed to work on this technically exciting project.

Below are a few specifications about the project:

Collector Size: 70²

Heat Pump Size: 91kW

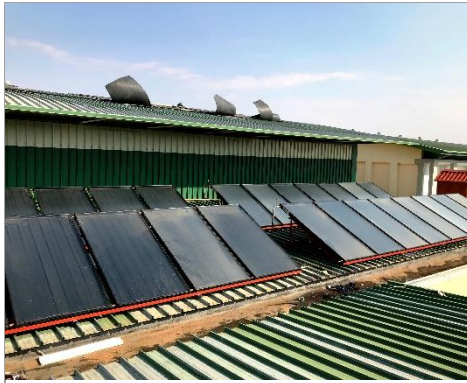
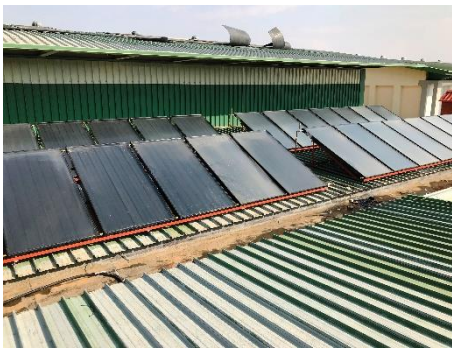
Pool Size: 1,000,000L

Year	Description	Client	Consultant	Value	Completion Time
2019	Supply, Delivery, Installation, Testing and Commissioning of Solar Pool Heating Collectors and Electric Back-up Pool Heat Pump to IPI College Indoor Swimming Pool	Ministry of Safety and Security	Denchi Consulting Engineers Hendrick Shaimange Tel: +264 (61) 228183 Hendrick.Shaimange@denchi.com.na	N\$ 600,000	2019

Contact Person(s):

Grant Kloppers
Mechanical Engineer
Denchi Consulting Engineers
Grant.Kloppers@denchi.com.na
061 22 8183

Hendrick Shaimange
Electrical Engineer
Denchi Consulting Engineers
Hendrick.Shaimange@denchi.com.na
061 22 8183



OFFSHORE DEVELOPMENT COMPANY

Burmeister & Partners (PTY) invited Lights Systems Namibia to install the 6kW Grid-Tied System on one of the projects they were working on.

PROJECT	YEAR	SIZE	DESCRIPTION	CLIENT
ODC 6kW Grid-Tied System	2016	6kW	Install 6kW PV system and connect to main DB.	Cuvelai Electric

Contact Person(s):

Hendrik Boshoff
Pr. Eng. B. Eng. (Mechanical)
For Burmeister & Partners (Pty) Ltd
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Fax: +264 (61) 379 001
Email: hboshoff@burmeister.com.na

Sakaria Shino
Cuvelai Electric
Cell: +264 8126 94 665/08134 27 831
Office: +264 61 300 801
Fax: +264 61 300 080
cuvelaielectric@gmail.com



MACRO-PROJECT SKILLS & COMPETENCIES

Registered with City of Windhoek (Through Contractor)	YES
Registered with Oshakati Premier Electric (OPE) – Electrical Contractors	YES
Registered with Municipality of Gobabis – Electrical Contractors	YES
Experience with the Product Offered	YES
Experience with Medium Sized Capital Projects	YES
Experience with Retro-fit Installations	YES
Experience with Measurement and Verification Operations and Methods	YES
Mobile Workshop Capabilities	YES
Warehousing and Control Capabilities	YES
Distributed Operations Experience	YES
Public & Client Communications	YES
Technology-to-Client Handover Experience	YES
Familiarity with ISO14001:2015	YES
Familiarity with ISO9001	YES
Project Management Experience for Projects Exceeding N\$20 million	YES

SAFETY

Solar Borehole Systems are the LSN offering of hardened Solar Plant Designs which mitigate the hazardous and corrosive environments that occur in proximity to Carbon Dioxide, Nitrous and Ammonia Refrigeration and Grain Storage Facilities.

A SHOWCASE OF LOCAL CAPACITY

We have track record of partnering with Enterprises of all scales to deliver this large cost mitigating solar solutions. Our capacity is fully geared in deliver an offering to AMTA through our 100% Namibian structure,

- Employing Namibian Professional and Associate Engineers with over 10MW of Project Development Experience;
- Employing three Senior Professional Electrical Wiremen and Technicians with over 18 Years of combined Experience; including Solar Plants, Silo, Crusher, Mill, Conveyor, Refrigeration, and Storage System Construction and Implementation;
- Employing six Professional Solar Millwright Artisans;
- Lead by a Project Management Team including MBA (2019), Msc (Finance) and Pr.Eng qualifications and over N\$400 million in fixed-asset Management Experience to reduce project risk and deliver on the Enterprise solution's aggressive project timeline;

REGISTRATION WITH RELEVANT AUTHORITIES

LSN is a registered Renewable Energy Companies in Namibia. Renewable Energy companies are required to register themselves as approved & registered Installers and Suppliers with NTCRE / TC1 with the Ministry of Mines and Energy in order to provide renewable energy solutions in the country.

LSN is also a Founding Member of the Renewable Energy Institution of Namibia (REIAoN). REIAoN is a small, informal, voluntary member-based association of (mostly) suppliers and installers active in Namibia's solar photovoltaic, solar thermal, energy efficiency and biomass sectors.

LIST OF APPROVED & REGISTERED INSTALLERS AND SUPPLIERS WITH NTCRE / TC1

As of February 2019

Category: PV INSTALLERS

LIST OF APPROVED & REGISTERED INSTALLERS AND SUPPLIERS WITH NTCRE / TC1

As of May 2017

Category: PV INSTALLERS		
No	Name	Contact details
43	Bethuel Shont Angala	Cell: 0812886222, c/o Lights Systems Namibia cc, Tel: 061 555000, P O box 30780 Pioneerspark, Windhoek, Email: info@lsn.com.na

Category: SOLAR THERMAL INSTALLERS

Category: SOLAR THERMAL INSTALLERS		
No	Name	Contact details
18	Faustinus Ita	Cell: 081 714 6766, c/o Light Systems Namibia cc, P.O Box 30780 Pioneerspark, Windhoek, info@lsn.com.na

Category: RENEWABLE ENERGY TECHNOLOGIES SUPPLIERS

Category: RENEWABLE ENERGY TECHNOLOGIES SUPPLIERS				
No	Business Name	Products	Contact Person	Contact details
51	Light Systems Namibia cc	Solar Water Heaters, Photovoltaic, Solar Home Systems, Solar Street Lights	Paulus Mulunga and Lyndon Elliot	Tel: 061 555 000, Cell: 081 288 6222, Fax: 088 6527063, info@lsn.com.na , P. O Box 30780 Pioneerspark, Windhoek, Corner of Bismarck & Dr W Kulz Street, Windhoek.
KEY				
SWH		Solar Water Heaters		
SHS		Solar Home Systems		
PVP		Photovoltaic Water pumping		

The complete list can be view on the attached document: **LIST OF APPROVED INSTALLERS AND SUPPLIERS as of February 2019.**

“Safety brings first aid to the uninjured.”

LSN has a zero Fatal Injury history and a collection of complete minor and near incidents in its Safety Report Catalogue. The LSN leaderships thanks a culture of caution of mindfulness to this standard and is committed to continuing this standard through actively promoting safety and recourse when danger is identified.

SAFETY & MOTIVATION AT LIGHTS SYSTEMS NAMIBIA:

At Lights Systems Namibia, we stress SAFETY as an imperative before joining the Company, as a key consideration to operations decisions, as a design requirement, and foremost when approving new technologies and procedures.



Our Values: Slogans that Drive LIGHTS SYSTEMS NAMIBIA

In implementation, we tap into the already existing internal motivations of our professionals and marry these to our business objectives. This way, successful SAFETY motivation takes relatively less effort and time because it first surfaces and then taps into employees' personal interests. We frame this as *SAFETY's Win-Win Message*.

PEER-TO-PEER SAFETY IN THE BUDDY SAFETY SYSTEM

As a Field Guide to Safety at Lights Systems Namibia, we use 10-point personal checklist to prepare our staff to implement effective safety during the day. The list includes effecting safety, encouraging safe procedures, and calls to action.



Training of UNAM & VTC Graduates at the Prosperita Facility (May, 2015) on a 23° Inclined Roof. Skills applied: Safety, Roof-tampering with the attachment of equipment and fixing of support/mounting structures to Trusses.

Lights Systems Namibia staff routinely train in a controlled environment. The artificial environment allows for new products to be test-assembled and test-fitted on actual roof mock-ups. Not only does this results in superior operational performance, but challenges and Safety Challenges can also be identified before the actual work begins.