Namibian Engineering Corporation (Pty) Ltd.

J. de Klerk

O. Hansen

H. Maier

Reg. No. 2010/0639 (Energy) Reg. No. 2015/0889 (Water & Pumps) P O Box 5052 Windhoek Namibia 9000 Tel: (264) 61 – 23 6720 Fax: (264) 61 - 23 2375 Fax: (264) 61 - 23 2673

info@nec-namibia.com

21 Joule Street Windhoek Republic of Namibia



J. Hansen (Chairman)#

J. von Gossler



#Swedish

COMPANY PROFILE

1. General Information

Namibian Engineering Corporation (Pty) Ltd (NEC) was founded as a family business in 1958, first called South West Engineering, then known as SWE and renamed to NEC in 1990. Initially SWE was focusing on sales and engineering solutions for Pumps and Power Generator. Over the years, pumps and power generation from fossil fuels have been joined by power generation from renewable energies, which were primarily used in agriculture and mining.

In 2007 the company achieved the strategic aim of broadening its capital base, by the Swedish ITTUR group taking up a majority stake in NEC. In 2012 ITTUR acquired the remainder of the shares from the Brückner family.

Today NEC is one of the leading players in the Namibian renewable energy landscape selling quality solar brands and providing experienced expertise for turnkey solutions, offering the full basket of Sales, Engineering and Service on our four main product lines for Water Pumping, Bulk Water Storage, Water Heating and PV Electric Solar solutions both on- and off-grid, supported by Backup Generators. Innovative products and services are offered to provide a long-term reliable and sustainable solution in Namibia's harsh weather conditions and geographical location.

Namibia is one of the countries with the highest levels of solar radiation in the world. NEC is a pioneer in the field of photovoltaics, having already built plants in the early 1970s. The company plans and builds grid-connected systems for private and commercial customers, but also off-grid installations - known as island systems. Rural areas of Namibia in particular, which often have no access to the electricity grid, benefit from off-grid power generation. With systems that are both grid-connected and off-grid, NEC creates the opportunity to offer green power generation at an affordable price.

NEC offers products and services in the B2B and B2C sectors, including full engineering, procurement, and construction (EPC) for solar energy with battery storage solutions, water supply and bulk water storage solutions as well as operations & maintenance solutions. The two operating subsidiaries of NEC are **NEC Energy (Pty) Ltd & NEC Water & Pumps (Pty) Ltd**.



2. Organizational Structure

The below diagram shows the organizational structure of the NEC Group of Companies, with both parent entities, Namibian Engineering Corporation (Pty) Ltd and The Desert Stone Fund Trust, being 100% Namibian owned entities.



Namibian Engineering Corporation (Pty) Ltd.

Under this umbrella NEC is responsible for equipment and parts sales, application engineering as well as service and repair work for the below mentioned franchised products. Adequate equipment and spare part stocks are held at Windhoek, where well-equipped repair workshops with testing facilities exist. Factory trained and qualified fitters maintain, service and repair our equipment, also in the field. Power & Pumps markets and supports its' products through the following divisions:

NEC Energy (Pty) Ltd provides solar water heater systems used in domestic and / or commercial applications as well as solar PV grid-tied and off-grid systems to generate electricity for various applications, and also advises clients on system design matters as well as turnkey installations and aftersales service. NEC Energy also caters for various stand-by and emergency power generation applications to all sectors in the economy. We specialized in customized Generator Sets as well as Uninterruptable Power Supply (INVT UPS) solutions. NEC Energy (Pty) Ltd is a full EPC contractor.

NEC Water & Pumps (Pty) Ltd caters to all pumping requirements in the agricultural, industrial, commercial, domestic, and mining sectors. Our services include consulting, design, installation, and commissioning of pumping applications and therefore we can offer turnkey solutions to our clients and customers. We are an approved distributor of Grundfos in Namibia since the 1970s and have installed water solutions all over the country. NEC Water & Pumps also caters to various bulk water storage applications to all sectors in the economy. Our services include consulting, design, installation/erection, and commissioning of these bulk water storage applications, and we can therefore offer turnkey solutions to our clients and customers. We are the officially appointed Service Agent and Distributor of Abeco Tanks in Namibia.





3. Company Particulars

Company Name: Company Address:

Namibian Engineering Corporation (Pty) Ltd

21 Joule Street, Southern Industrial P.O. Box 5052, Windhoek, Namibia

Tel: Fax: Email: Web: +264 (61) 236 720 +264 (61) 232 673 necpp@nec-namibia.com http://www.nec-namibia.com

Company registration No.:

Income Tax registration No.: VAT Registration No.: Social Security Reg. No.: Employee's Compensation Reg. No.:

2010/0639 (Energy) 2015/0889 (Watery & Pumps) 05345520-01-1 05345520-01-5 20132955 00004797







4. NEC ENERGY - Solar/Photovoltaic Division

Our team provides a wide range of Power Solutions:

- Grid-tied Photovoltaic systems
- Off-grid systems for daytime demand, or for 24hr demand by adding battery storage to a system
- Solar / Wind / Battery / Generator / Hybrid Systems to provide Clients with 24/7 off-grid power
- All systems are controlled by State of the Art Controllers to facilitate seamless integration of energy sources.

The completed projects' installation, including civil works and security fencing is handled by our team. Solar PV Systems are installed on clients' flat or pitched roofs, as well as ground mounted on demand, on to free-field stands if installation has to be in the open land.



5. Products and Services

NEC offers the following Renewable Energy services and products in the Solar Grid-feed and Off-grid division:

- Planning and engineering of PV Solar power Systems (grid-feed or complete off-grid solutions)
- Installations, operations and maintenance
- Training
- Our unparalleled product range for solar panels, inverters, mounting structures and accessories include the very best products from the world's most respected manufacturers
- Newest technology in energy storage, first to introduce Supercap batteries to the Namibian market
- Good workmanship to ensure a reliable and sustainable solutions
- Consultations to meet the individual demands and personalised quotations to ensure customer satisfaction
- Domestic, Commercial, Industrial and National projects



6. Reference List of selected PV system installations by NEC in the last years

Commercial - Project Name	Location	Date	Specific role in project
Emcon Consulting Engineers (4.2 kWp)	Windhoek	Nov '13	EPC & installation
Nampower Head Office, Whk (103 kWp)	Windhoek	Oct '14	EPC & installation
Omburu Solar Park (5 400 kWp)	Omaruru	Nov'14 - Mar'15	Civil & Full Construction
Fruit and Veg City (208 kWp)	Swakopmund	Mar '15	EPC & installation + O&M
Oshakati Spar (143 kWp)	Oshakati	Apr '15	EPC & installation + O&M
Maerua Mall (1 040 kWp)	Windhoek	Sep '15	EPC & installation + O&M
SCE Consulting Engineers (51 kWp)	Windhoek	Sep '15	EPC & installation
Electronic Control Board (ECB) – 17kWp	Windhoek	Feb '16	EPC & installation
Osona Solar Park (6 700 kWp)	Okahandja	Apr – Aug'16	Civil & Full Construction
Susanne Grauheim Old Age Home (90 kWp)	Windhoek	Sep '16	EPC & installation + O&M
Gobabis Solar Farm (2 x 5 800 kWp)	Gobabis	Mar – Aug '17	Civil & Full Construction
Omuthiya Police Station (200kWp)	Omuthiya	Jul '17	EPC & installation
Aussenkehr Solar Farm (6 400 kWp)	Aussenkehr	Apr – Nov '17	Civil & Full Construction
The Wood Connection (118 kWp)	Windhoek	May '18	EPC & installation
Zimmermann Garage (90 kWp)	Windhoek	June '18	EPC & installation
Kokerboom Solar Farm (12 100 kWp)	Keetmanshoop	May – Nov '18	Electrical Scope
Fresh Produce Market (406 kWp)	Windhoek	Oct '18	EPC & installation
Standard Bank (150 kWp)	Windhoek	Dec '18	EPC & installation
Sonop Lodge (180 kW Island & 480 kWh battery backup)	Sossusvlei	Feb '19	EPC & installation
Deutsche Höhere Privatschule (104 kWp)	Windhoek	May '19	EPC & installation
Uis Guesthouse (21 kWp Island & 36.2 kWp battery backup)	Uis	June '19	EPC & installation
Mashare Development Institute (100kWp)	Mashare	Oct '19	EPC & installation
Farm Okongeama (17kW grid + 5kW Island)	Near Windhoek	Feb '20	EPC & installation
Namwater Desalination Plant (120kW hybrid)	Grünau	Mar – Nov '20	Civil & Full Construction
Nedbank (138 kWp)	Windhoek	June '21	EPC & installation
Namibia University of Science&Technology (20kW island)	Groot Aub	Mar '21	EPC & installation
Waldburg Lodge (286 kWp with 600 kWh Backup)	Dordabis	Sep '21 – Nov '22	EPC & installation
Namib Poultry Industry Solar Park (3 088 kWp)	Brakwater	Sep '21 – Feb '22	Civil & Full Construction
CIC – Pan African Sales (152kWp)	Windhoek	Jul '22 – Aug '22	EPC & Installation
Paratus Armada (399kWp)	Windhoek	Jun '22 – Aug '22	EPC & Installation
Debmarine (88 kW Island with 1200 kWh Backup)	Kerbehuk	Aug '22 – Nov '22	EPC & Installation
Namparks Cape Cross, Ugabmund, Springbok & Möwebay	Namibia Coast	Feb '23 – May '23	EPC & installation
(480 kW Island total)			



Kokerboom Solar Farm: One of the six Parks, ranging from 5MW to 11.6 MW, where NEC has been contracted to do the electrical scope, EPC and installation.







Namibia Poultry Industries Solar Farm completed 2022: Panel packing on modified trackers with reflective gravel underneath for bifacial effect of the panels increasing panel output by 5%.

Finished Solar Park – 3 MW producing on average 23 000 kWh a day.











Maerua Mall, Windhoek, Namibia: 1 040 kWp Grid tied system, installed by NEC













Fresh Produce Market, Prosperita, Windhoek 406kWp





7. SUPERCAPS as the latest way of storing electricity effectively - ideal for Renewables

Supercapacitor based storage is enabling a meaningful transition away from fossil fuels. Supercaps are offering new and diverse solutions to the world's complex energy problems.

They have the following advantages over Lead Acid / Lead Carbon and Lithium Ion (LiFe) Batteries:

- Longer Service life, 40+ years expected life time (Electronic cards in Battery can be exchanged separately)
- **Tolerance against higher Ambient temperature** (environment of up to 45 °C does not affect battery capacity or lifetime significantly, can work in conditions up to 80 °C)
- Up to 8 Cycles per day, and still get to design life time of more than 40 000 cycles
- Charging Battery from 10% 100% in less than 30min
- 100% depth of discharge is possible without damage (90-95% daily DoD is preferred)
- **No memory** effect. Therefore a depleted unit at 10% can be stored for a month, and then just charged again without any effect on the unit life expectancy.
- Non-toxic, non-flammable, environmentally friendly 90% recyclable
- **No chemical reaction**, therefore inherently more stable than LiFe. Higher energy density then most technologies.







8. NEC ENERGY - Solahart installations by NEC

NECPP has been associated with Solahart (made in Australia) since the early 1990's. The 30 year of track record of this product has led to be a major contributor in the solar water industry in Namibia.

Apart from the countless systems installed country wide on domestic applications, NECPP also caters for solar water heater solutions in the commercial sector. Some of the recent projects completed are:



Domestic Solahart geyser installation in Windhoek. Suitable for all over Namibia, also at the coast



12 x 300L Solahart geysers SAB Miller Okahandja Solahart







Vooruitsig School in Rehoboth, 47x 300L Solahart geysers

Gomoti Lodge, Okavango Delta, Botswana 27 x 300L Solahart geysers







Solahart Atmos-Air Heat Pumps are a new addition to NEC Energy's portfolio and are an alternative to the on-roof Solahart water geysers. This type is also a renewable water heater and assures hot water 365 days a year.

Solahart Atmos-Air Heat Pumps make great sense when replacing your old electric water heater if your home is not suitable for solar hot water for a variety of reasons. Heat pumps use the surrounding air, not the direct sun, to heat your water, and are a reliable, efficient way to reduce your water heating energy consumption and help you lead a more sustainable life.

Every Solahart Atmos-Air Heat Pump comes with an inbuilt touch LCD display. It is user-friendly and boasts a range of operation modes and settings to ensure the lowest energy consumption.



atmos // air 270

New technology arrived in Namibia in 2024 – 180L & 270L Heat Pumps use heat from the ambient air to heat water, just like a reverse cycle air-conditioner. This system could save between 60% to 75% of your water heating energy consumption.

9. Reference List of selected Solar geyser & AtmosAir installations by NEC

Commercial - Project Name

Casa Rosa - House of DR. H Geingob (2 x 300L) Okahirongo Elephant Camp (18 x 180L & 1x 300L) Halutusane Invest (16x 300L plus 8x 180L) Qingjian International Group (36x 300L plus 11x 150L) Ministry of Home Affairs (centralized system 2x 5000L) China State Construction (28x 300L plus 10x 180L) Omaruru Hospital (HS 5000L system & 40x LCS Col) Toivo ya Toivo Secondary School (100x 180L) Private Residence (1x Atmos Air 180L) Waldburg Lodge (10x Atmos Air 180L & 2x 270L)

yser & Almosair installations by NEC			
	Location	Date	Specific role in project
	Windhoek	Sept '19	Supply & installation
	Kaokoveld	Aug '20	Supply & installation
	Katima Mulilo	Nov '20	Supply & installation
L)	Rehoboth	Oct '20	Supply & installation
L)	Windhoek	Jul '21	Supply & installation
	Epupa, Kunene	Dec '22	Supply & installation
I)	Omaruru	Mar '23	Supply & installation
	Ondangwa	Oct '23	Supply & installation
	Windhoek	Jan '24	Supply & installation
	Dordabis	Mar '24	Supply & installation





10. NEC WATER & PUMPS - Tank and Pump Division

This division designs, sells, constructs, erects and maintains pumping installations, irrigation plants and similar projects mainly with the flagship Grundfos range.

Complementary to the pumping division the bulk sectional storage tanks from Abeco provide for the storage of the pumped water especially in remote areas.

This division supplies and installs:

- raw water sewerage pumps to transfer raw sewerage from the balancing tank in town to new treatment works as well as end suction pumps to transfer semi purified water to storage facilities for later use
- fire water storage tank
- ground level reservoirs, borehole extraction pumps as well as a gas chlorine dosing system
- fire booster pump set and water softener
- borehole pumps

Tank installations:

- 1. Finkenstein Estate NEC supplied, delivered and installed a 250m³ elevated tank on a 25m stand.
- 2. For Oshakati Town Council supplied, installed and delivered for 6 new developments a combination of 500m³ ground reservoirs, a booster pump sets and a 250m³ elevated reservoirs on a 20m stand.
- 3. At the new SAB Brewery at Okahandja 2 x 300m³ circular reservoirs were installed for their fire protection water storage as well as a 150m³ ground reservoir for domestic and process water.
- 4. The new FNB HQ in Windhoek Supply, delivery and installation of a divided tank and supply booster pumps for the process, waste-water as well as domestic and irrigation booster pumps.
- 5. Seaworks in Walvisbay installed 2 of 1000m³ circular powder coated tanks for potable water and recycled water.
- 6. Omuthiya Town Council installed 4 tanks beginning of 2024. This was for two phases. For phase 1 NEC installed a 1000m³ tank at ground level and completely repaired a 100m³ tank on a 20m tower. For Phase 2 our teams installed a 500m³ ground tank on ground level and a 250m³ fitted to a 20m stand supplied by the main contractor.
- 7. AB InBev, Okahandja NEC installed a 260m³ ground level tank in Okahandja as part of their water stewardship program to uplift marginalized communities in Okahandja.
- 8. Bank Windhoek, CIH in Windhoek replaced a 21m³ tank at their head office in Windhoek.
- 9. We are completing installing a 108m³ elevated tank on a 30m stand for the Keetmanshoop Vocational Training Centre.
- 10. We have installed a 108m³ ground level tank at the newly constructed hospital in Omuthiya.
- 11. In Windhoek NEC installed 3 tanks at the new development at Erf 126 on Independence Avenue to serve as storage for fire, domestic and sprinkler water applications.
- 12. At the Oshikuku Police Station our team installed a 58m³ ground tank and 49m³ elevated tank on a 16m stand for the newly constructed police station.
- 13. At the Hosea Kutako Airport NEC installed a 305m³ elevated tank on a 25m stand for the planned development of a new office park. This erected tank and stand and is now a landmark when you arrive at the Hosea Kutako Airport.
- 14. NEC was tasked to install a 305m³ elevated tank on a 25m stand when Finkenstein Estate and Manor was experiencing water challenges and had to look at alternative solutions to maintain buffer and pressure.
- 15. Oshakati Town Council has made use NEC services and expertise on 6 occasions to date to install a combination of a 500m³ ground tank and a 260m³ elevated tank on a 20m stand.
- 16. City of Windhoek NEC has erected a 700m³ coated tank for the new treatment works at Brakwater.



Pump Installations:

- 1. For SAB Breweries in Okahandja NEC Power & Pumps has equipped 2 boreholes to extract ground water as a back up to the municipal supply.
- 2. For Vivo Energy at their Tsumeb Depot Supply, delivery and installation of 2 diesel driven fire booster pumps and a jockey pump.
- 3. For Namdeb in Windhoek at their HQ Supplied, delivered and installed a fire booster pump set.
- 4. Paratus Data Centre Fire set, Sectional steel tank and EN12845 Grundfos
- 5. Otavi Primary School Fire set, Sectional steel tank and EN12845 Grundfos
- 6. Ondjiva Angola 30m Sectional steel tank with Borehole pumps and water treatment plant
- 7. Ondangwa Town Council Grundfos CR multistage pump station with MCC
- 8. Chief Hosea Memorial 7.2kW Solar-Borehole installation SP Grundfos RSI
- 9. Nkurenkuru Town Council 12kW Solar-Borehole installation SP Grundfos RSI
- 10. Outapi Sewage station Cornell pumps and MCC
- 11. Nedbank WHK Main Campus & Courtside Booster pumps, Drainage pumps controls



Pump Installation at Omuthiya Police Station & Grundfos Hydro 2000 pump







mounted water Tank







Ministry of Home Affairs & Security – Head Office in Windhoek 2 X 5000 Storage tanks with solar pump skid & solar delivery skid & 28 x LCS collectors











11. Reference List of selected Pump & Tank installations by NEC

Commercial - Project Name - PUMPS	Location	Date	Specific role in project
VIVO Energy (Diesel driven Fire Booster Unit)	Grootfontein	Mar '19	Supply & installation
FAO Representation in Namibia (pumps and overhead	Omusati & Erongo &	Feb '20 –	Supply & installation
tanks)	Kunene	May '20	
Road Fund Administration (Grundfos Pumps)	10 sites whole Namibia	Nov '19 – Jul ' 21	Supply & installation
Shivute Construction (Grundfos Pumps)	Ondangwa	Dec '21	Supply & installation
Namwater (8x Pumps and Booster sets)	Lüderitz	Mar '22	Supply & installation
Water Engineering Africa (Grundfos Pumps)	Katima Mulilo	May '22	Supply & installation
Nedbank Headoffice	Windhoek	June '22	Supply & installation, O&M
Ministry of Environment & Tourism (various pumps)	Windhoek	Sep '22	Supply & installation
Paratus Data Centre (Pump & Storage Tank)	Windhoek	Nov '22	Supply & installation
Commercial - Project Name - TANKS	Location	Date	Specific role in project
INO Investment (Booster pump & Sectional steel tanks)	Oshakati	Aug '19	Supply & installation
The Kongom Group (Elevated Tank)	Oshakati	Oct '19	Supply & installation
K.K. Africa (850m ³ Ground Tank)	Windhoek	Oct '19	Supply & installation
SOCOLIL (500 m ³ Elevated Tank / 9x8x4 Panel)	Lubango, Angola	June '20	Supply & installation
NamibBeton (130m ³ Elevated Tank / 5x5x3 Panel)	Katima	Aug '20	Supply & installation
Okahao Town Council (300m ³ Elevated Tank on	Okahao	Dec '20	Supply & installation
20m stand)			
Lady Pohamba Hospital (Pumps and Tanks)	Windhoek	May '22	Supply & installation
China Jiangxi International (Pumps and Tanks)	Casinga, Angola	June '22	Supply & installation
China Jiangxi International (Pumps and Tanks)	Ondjiva, Angola	Dec '22	Supply & installation
Seaworks Fish Processors (1000m ³ Circular	Walvis Bay	Dec '23	Supply & installation
Powder Abeco Tank)			





Elevated Water tank installation at Bethanie, Southern Namibia





12. Short overview of expertise and Qualifications

CEO – NEC Energy (Pty) Ltd & NEC Water & Pumps (Pty) Ltd

Name:	Joring von Gossler
Date of Birth:	31 st July 1980
Languages:	English; German; Afrikaans
Highest Qualification:	MScEng (Mechanical) - University of Stellenbosch, RSA (2006)
	BEng (Mechanical) - University of Stellenbosch, RSA (2004)
Cellphone:	081 734 3184
ID:	800731000064

NEC ENERGY (Pty) Ltd

Head of Renewable Energy and Senior Project Engineer

Name:	Justin Julius
Date of Birth:	17th April 1990
Languages:	English; Afrikaans
Highest Qualification:	B.Eng (Mechanical) - University of Stellenbosch, RSA (2012)
Major Projects:	Project Engineer for all projects in the Solar/PV-Division of NEC since 2015
	Responsible for submitting Tenders and quotations for grid-feed and off-grid PV
	solutions.
Cellphone:	081 253 7775
ID:	9004175085086

Project Engineers for Renewable Energy

Name:	Roland Gerdes
Date of Birth:	28 th December 1969
Languages:	English; German; Afrikaans
Highest Qualification:	B.Eng (Electrical & Electronics) - University of Stellenbosch, RSA (1994)
Major Projects:	Project Engineer for all projects in the Solar/PV-Division of NEC
Cellphone:	081 129 2888
ID:	69122800085
Name:	Erik Cornel Jordaan
Date of Birth:	15 th April 1992
Languages:	English; Afrikaans
Highest Qualification:	B.Tech (Megatronics) – CPUT (2018)
Major Projects:	Project Engineer for all projects in the Solar/PV-Division of NEC
Cellphone:	081 149 4440
ID:	92041500263
Name:	January Ruben
Date of Birth:	2 nd May 1990
Languages:	English; Oshiwambo; Afrikaans
Highest Qualification:	N6 Certificate
Major Projects:	Senior Electrician for all projects in the Solar/PV-Division of NEC
Cellphone:	081 221 0917
ID:	900502 0029 1





Division Head - Solahart Name: Tinus Smit 20th April 1986 Date of Birth: English; Afrikaans Languages: Highest Qualification: N6 Certificate Major Projects: Unam, Divundu Vision School, Ministry of Lands, Rossing Uranium, Aveng Water Treatment Cellphone: 081 335 8900 ID: 86042000330

NEC WATER & PUMPS (Pty) Ltd

Division Head - Sectional Storage Tanks

Name:	Wilhelm Genis
Date of Birth:	21 st October 1972
Languages:	English; Afrikaans
Highest Qualification:	N Dip Mechanical Engineering – Pretoria Technicon (Now TUT)
Major Projects:	Swakopmund Municipality, Bank of Namibia, Groot Aub, Namdeb, Outjo Hospital,
	Nkurenkuru Town Council
Cellphone:	081 127 8487
ID:	72102100014

Division Head - Pumps Name: **Tinus Smit** Date of Birth: 20th April 1986 English; Afrikaans Languages: N6 Certificate Highest Qualification: Major Projects: Unam, Divundu Vision School, Ministry of Lands, Rossing Uranium, Aveng Water Treatment Cellphone: 081 335 8900 ID: 86042000330

These leading Project Engineers and Site Supervisors are supported by our team of qualified and experienced Electricians and Installers.





www.nec-namibia.com

13. Contact details

Enquiries and information requests:

necpp@nec-namibia.com info@nec-namibia.com

CEO – NEC Energy, Water & Pumps Joring von Gossler email: Joring.vonGossler@nec-namibia.com

Head of Renewable Energy and Project Engineer Justin Julius email: <u>Justin.Julius@nec-namibia.com</u>

CFO – NEC Energy, Water & Pumps Robin Bruwer email: <u>Robin.Bruwer@nec-namibia.com</u>

NEC (Pty) Ltd P. O. Box 5052 Windhoek, Namibia Tel: +264 - 61 - 236720 Cell: +264 (0)81 734 3184 Fax: +264 - 61 - 232 673 web: www.nec-namibia.com

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