



SOLARSOLUTIONS
SEE THE LIGHT

SOLAR SOLUTIONS & BEYOND!

2022 PRODUCT CATALOGUE





OUR MISSION

We are driven by a vision of PNG where everyone has access to technologies that enable them to live productive, dignified and healthy lives.

We provide a range of solutions beyond solar in areas of energy, education, water and sanitation.

Be it a community project impacting 50 homes or 5,000 homes, contact us today to find out how we can help you, help others.



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Indoor & Portable Solar Solutions



Key: Battery Life Full Charge Runtime Warranty



CONNECT LI3000

- 30W Panel
- 12.8V, 17.6Ah Lithium-ion Battery
- 4 Ultra Bright LED Tube Lights
- 1x Spotlight
- 2 x USB Charging Ports
- 2 x 4m Ex.cable
- 1 x 6m Ex.cable
- 1 x 8m Ex.cable
- 4 x light switch
- Split cable
- 4 x Z-brackets

5 Years 6 hrs max 3 hrs min 24 months

CONNECT LI3010

- 2x30W (60W) Panel
- 12.8V, 33.6Ah Lithium-ion Battery
- 6 Ultra Bright LED Tube Lights
- 6 x light switch
- 1 x Spotlight
- 2 x Split Cables
- 2 x USB Charging Port
- 3 x 4m Ex.cable
- 2 x 6m Ex.cable
- 1 x 8m Ex.cable
- 4 x Z-brackets

5 Years 9.5 hrs max 5 hrs min 24 months



CONNECT LI1000+

- 15W Panel
- Battery 12.8V, 4.5Ah Lithium-ion Battery
- 3 x bright LED Lamps
- 1 x ultra-bright LED Pendant Lamp
- 4 x light switch
- 2 USB Charging Ports
- 3 x 4m Ex.cable
- 1 x 6m Ex.cable

5 Years 12 hours max. 2 hrs min. 24 months



38.5 INCH SOLAR TV

38.5 Inch LED Display
Power 110V, 240V
Remote Control
USB, HDMI, VGA, and AVI Inputs
Watch movies, play mp3 music, and view photos
Compatible with our 30W Barefoot Connect Systems
22-inch TV with a DVD Player is also available.



BAREFOOT LAPTOP CHARGER

Barefoot Laptop Charger is an accessory that can be powered off with either Barefoot Connect 3000 or 3010 series. Capable with charging multiple laptops except Apple mac, it includes different charging pins that can charge laptops that have a power rating of 60watts and below. The charger works with various nominal voltages between 16 – 20v



BAREFOOT FAN 12V

Two fan speeds:
High and Low
Run Time:
7hrs (High) &
13 Hrs (Low)
Fan Height: 23cm
1 x 6m cable



BAREFOOT PEDESTAL FAN

3 x fan speeds to maximum cooling
Run Time:
9 hrs (High),
7 hrs (Normal)
3 hrs (Low)
Fan Diameter: 40cm


HOME 40 PLUS

The Home 40 Plus includes: 5.5W Solar Panel | 2550mAh, 7.4V Lithium-ion Battery | 2x Tube Light | Phone Holder | USB Cable for Phone Charging | Battery Control Unit

 5 years
  24 hrs Max
 6 hrs Min
  24 months


HOME 60

10x Brighter than a kerosene lamp. This Home60 includes: 6W Solar Panel | 6Ah Battery | 3 Hanging Lamps with 3 modes (low, normal and turbo) | USB port for charging mobile phones and other devices | 6.5m lamp cable & 6m panel cable

 5 years
  24 hrs
  24 months


HOME 120

20x Brighter than a kerosene lamp. This Home120 include: 12W Solar Panel | 12Ah Battery | 3 Hanging Lamps with 3 modes (low, normal, and turbo) | USB Port for charging mobile phones and other devices | 6.5m lamp cable & 6m panel cable

 5 years
  24 hrs Max
 5 hrs Min
  24 months


HOME 120 PLUS

90x Brighter than a Candle, 900 lumens Bright
Same features as Home 120 but with extra 1x Lamp & 1x Motion Sensing Security Light (Total: 5 lights altogether)

 5 years
  24 hrs
  24 months


HOME 200X

60x Brighter than a kerosene lamp | 11W Solar Panel | 28.3Wh lithium-ion NMC battery | 3x 200 Lumen Tube lights with switches | Low, Normal & Turbo light modes | 5V USB phone charging port | 4x 12V ports for compatible TV or appliances | 6.5m light cables & 6m panel cable

 5 years
  30 hrs Max
 6 hrs Min
  24 months


HOME 200X PLUS

60x Brighter than a kerosene lamp | 15W Solar Panel | 28.3Wh lithium-ion NMC battery | 3x 200 Lumen Tube lights with switches | Low, Normal & Turbo light modes | 5V USB phone charging port | 4x 12V ports for compatible TV or appliances | 6.5m light cables & 6m panel cable

 5 years
  30 hrs Max
 6 hrs Min
  24 months


HOME 500X

90x Brighter than a kerosene lamp | 50W Solar Panel | 141.52Wh lithium-ion NMC battery | 4x 200 Lumen Tube lights with switches | 1x Motion Sensor Security Light | Low, Normal & Turbo light modes | HD Digital TV 24"/32" | 5V USB phone charging port | 4x 12V ports for compatible TV and appliances | 6.5m light cables & 6m panel cable.

 5 years
  19 hrs Max
 6 hrs Min
  24 months

Key:  Battery Life  Full Charge Runtime  Warranty

Sunking and Barefoot products are quality approved and certified by Lighting Global Standards. Both products are easy to carry, easy to install and brighter with impact resistance lights.



PICO PLUS

A portable study and task light (0.35Watts) with an integrated solar panel.

 5 years
  72 hrs Max
5 hrs Min
  24 months



PRO 200

20x Brighter than Kerosene Lamp (200 Lumens)
Bright solar lantern with USB Mobile Charging input

 5 years
  72 hrs
  24 months



PRO 400

40x Brighter than a kerosene lamp. 400 Lumens
Mobile Phone Charging Output

 5 years
  100 hrs Max
5 hrs Min
  24 months



BOOM

The first ever solar lantern with a Digital Radio, MP3 player and Mobile Phone Charging.
Includes input for USB, SD Card and headphones.

 5 years
  36 hrs Max
6 hrs Min
  24 months



MULTI-PURPOSE TORCH

30x Brighter than Kerosene lamp
Head strap to carry torch
USB for Torch Charging
2.35W Solar Panel

 8 hrs Max
3 hrs Min
  24 months



SINGLE TORCH

USB Charging
3.7V, 2550mAh NMC
Lithium Ion Battery
3 modes (turbo, normal & strobe)

 20 hrs Max
2.5 hrs Min
  24 months



FAN

20W Panel
16 inch Stand Fan
Brushless DC Motor technology
Blows up to 6.2 meters
3 speed modes
Solar Powered

 5 years
  24 hrs Max
6 hrs Min
  24 months



FOLDABLE FAN

USB Fan Charging | 4 Fan Speed Modes | Foldable Fan | Portable with Adjustable height from 9.3cm (storage height), 36cm (countertop height) & 1m (Floor Height) | Brushless DC Motor offering quiet, efficient and reliable mobility) | Lithium NMC battery 7650mAh 3.7V. Fan weight 0.95kg.

 24 months



TUBE LIGHT

Portable Solar Tube Light with Mobile Phone Charging | 3 Power Modes | 400 Lumens | 5.5W 6V Solar Panel | 5.1Ah Lithium-ion Battery | Hand-Held, Hang on a Line or Hang on a Mesh.
Designed for Indoor Use Only.

 5 years
  24 hrs Max
6 hrs Min
  24 months



RADIO

Portable Radio with MP3 Player, Rechargeable Battery, Headphone Output.
DC 5V, 2.5W Power,
Size: 120 x 64 x 30.5mm
Weight: 116g

 24 months

Key:  Battery Life  Full Charge Runtime  Warranty

Sunking and Barefoot products are quality approved and certified by Lighting Global Standards. Both products are easy to carry, easy to install and brighter with impact resistance lights.



BioLite



BIOLITE HOME 5000

Solar Home 5000 can charge mobile devices and run the included television for on-demand connectivity and entertainment. The Solar Home 5000 can also be connected to the Solar Home 620+ to provide up to 230 Wh of battery storage.

Specification:

- 50W Solar Panel
- 115 Wh, LI-NMC Battery
- 3 x Hanging Lights and 1 x motion sensor light (200 lumens each) with switches
- 115 Wh Control Box with 3 x 12V appliance ports
- 24" or 32" HD Digital TV with USB Video, HD Broadcast and Satellite capabilities, and more
- Run Time: 6 - 80 Hours
- 2 Years Warranty



BIOLITE HOME 620+

Specification:

- 6W Solar Panel (with 5.5m cable length)
- 3600 mAh @ 6.4V, (23Wh) LiFePO4 Battery
- 2 x Hanging Lights and 1 x security light (130 lumens each) with switches and 6.5m cables
- The security light is a motion sensor
- Control Box
- 2 x USB Charge outputs

- DIN Port
- 2 x Light Port
- USB Adapter
- Wall Screws
- Run Time: 6 - 20 Hours
- 2 Years Warranty

The Control Box houses an integrated 4th light as well as a built-in FM radio, MP3 player, and two USB ports to charge mobile phones and other devices.

SOLAR STUDY LAMP



Run Time: 6.8 Hrs (low setting)
3.1 Hrs (high setting)

 5 years  24 months

SOLAR TORCH & LAMP



Ultra bright solar powered torch with bonus in-built lamp. Perfect for children doing homework at night.

 9 hrs Max
5 hrs Min  24 months

CAMPING LAMP & MOSQUITO KILLER



Solar powered mosquito killer with lamp. Portable, durable and easy to use. Dual charging option. Available in 2 colours: grey and green. 1 button - 3 functions.

LIGHTBRINGER OUTDOOR SOLAR WALL SECURITY LIGHT

 12 months  5 years

SINGLE 1.5W



220 Lumens | 0.7W integrated panel | 1200mAh / 3.7V | 2 Light modes | motion sensor with 6m detection range | IP65 Waterproof | Daylight saving switch

DOUBLE 3.2W



400 Lumens | 2.3W integrated panel | 2000mAh/3.7V | 3 Light modes | Motion sensor with 6m detection range | IP65 Waterproof | Daylight savings switch

DOUBLE 6.8W



800 Lumens | 4.4W integrated panel | 4000mAh / 3.7V | 3 light modes | motion sensor with 6m detection range | daylight savings switch | IP65 Waterproof

THE COLOURED BULB STRING LIGHTS



Solar powered coloured bulb string lights, 20m long with 200 pcs bulbs, 8 Light modes, 3.7V 1.2Ah Lithium Battery, Remote Control, Bulb Size 2.4cm

THE WHITE BULB STRING LIGHTS



Solar powered cold white bulb string lights, 17m long with 100 pcs bulbs, 8 light modes, 3.7V 1.2Ah Lithium Battery, Remote Control, Bulb Size: 2.4cm

Key:  Battery Life  Full Charge Runtime  Warranty



Authorized
Distributor

A company of  ENGIE

SME Business Packages



Engie Mobisol products are Productive Use Packages, best suited for local SMEs or anyone looking to go Solar for Entertainment, Recreation, and Income generating purposes. These quality plug & play systems are the perfect clean energy solutions for your Home or Business.



MOBISOL BAR 200W BUNDLE

- PV Panel 200W
- 1 x Solar Controller V8
- 1 x Battery 100AH
- 6 x 3.5W LED Light set
- 1 x 42" inch
- 1 x Extension cable
- 1 x Y cable
- 1 x DC Stereo System
- 2 Years Warranty



MOBISOL 120W BARBERSHOP BUNDLE

- 1 x PV Panel 120W
- 1 x Solar Controller V8
- 1 x Battery 50Ah
- 5 x 3.5W LED Light set
- 1 x Extension cable
- 1 x Y cable
- 2 x DC Hair Cutter
- 2 Years Warranty



MOBISOL 80W CHARGING KIOSK BUNDLE

- 1 x PV Panel 80W
- 1 x Solar Controller V8
- 1 x Battery 50Ah
- 4 x 3.5W LED Light set
- 1 x Extension cable
- 1 x Y cable
- 1 x Mobicharger
- 2 Years Warranty



MOBISOL SOLAR HAIR CUTTER

DC Solar Hair Cutter is an individual accessory that can also be charged with a 5V USB.

- 3.6V DC operating Voltage
- 2.5hrs charging time
- 2.5hrs working time

SOLAR FANS



60 INCH 40W SOLAR CEILING FAN WITH LED LIGHT (INC. POWER ADAPTER)

- 60 inch ABS Fan Blades + 10W LED Light
- 40W Solar Panel
- Includes AC/DC Power Adapter to connect to main grid power.

42 INCH 35W SOLAR CEILING FAN WITH LED LIGHT (INC. POWER ADAPTER)

- 42 inch ABS Fan Blades + 10W LED Lights
- 35W Solar Panel
- Includes AC/DC Power Adapter to connect to main grid power



42 INCH 70W SOLAR CEILING FAN WITH LED LIGHT

- 42 inch ABS Fan Blades + 10W LED Lights
- 70W Solar Panel (35W for daytime use, 35W to charge battery)
- Includes 9.6Ah lithium battery



KOOLBOKS

LIFE IS KOOL

Solar Fridge/Freezers



The Koolhome Freezer, designed and developed by Koolboks Ltd, provides a reliable and alternative long-term storage technique due to superior insulation and ice battery technology employed in the design. The freezer can function as a refrigerator or as a freezer because the temperature range can be adjusted according to the user's preference and storage requirements. These versatile koolhome freezers can be used in rural settings, at off-grid sites, offices, homes, restaurants and even commercially. Koolboks is an environmentally friendly organisation that promotes the use of clean and renewable energy, using both solar power and the environmentally friendly refrigerant R600a, it falls in line with UN SDG goals.

NEW: Koolboks Freezers can now also be powered by a detachable independent power unit called Koolboks Powerfoot (Kool Powerfoot). The Koolboks Powerfoot is a lithium battery-enabled pedestal for faster and more efficient refrigeration.

KOOLBOKS

Fun all the way !



SOLAR DIRECT DRIVE VACCINE FRIDGE (KAREBOKS)

Technical Specifications:

- 158L Fridge Capacity
- 50L Vaccine Storage Capacity
- Daily Power Consumption of 0.70kWh/Day
- 50kg phase change material for the ice thermal storage
- Lowest Cabinet temperature of -2°C
- Freezing Capacity test for phase change material was 15 hours to reach -2°C .
- Temperature gain from -2°C to 2°C (Accepted cabinet temperature of Vaccine Fridge) took 8 hours.
- Autonomy test (from 2°C to 8°C) took 88 hours and 97 hours at a 10°C tolerance.

Temperature/Humidity Monitoring Specification:

- Powerful SMS alert, SMS set, SMS inquiry. GSM/GPRS.3G/4G network communication, can be operated from anywhere, no distance limitation.
- Automatically resend the data while communication interrupt or failure, and failure will alert by SMS or text to users.
- Supports remotely restarting the RTU and configure & operate it by SMS commands remotely.
- Includes 2 USB LED Bulbs for emergency lighting.

KOOLBOKS

Fun all the way !



KOOLHOME FREEZER 158L + 2 LED LIGHT BULBS FULL OPTION

Technical Specifications:

- Capacity 158L
- 1 x 310W Mono Solar Panel
- 30A MMPT charge controller
- 2 x Ice Battery
- Kool Powerfoot with 24V 30Ah lithium battery
- 100mm insulation, direct cooling
- 1 x AC/DC adaptor
- Refrigerant: R600a
- 86W rated power
- NW: 56kg
- GW: 58kg
- Machine Dimensions: 850x635x845mm
- Packing Dimension: 900x690x880mm
- Dual USB Ports for charging phones and appliances
- 2 LED Light Bulbs
- 3 years warranty
- Has options for 240V AC input to charge the battery & block ice during dull days

KOOLBOKS

Fun all the way !



KOOLHOME FREEZER 208L

Technical Specifications:

- Capacity 208L
- 1 x 320W Mono Solar Panel
- 3 x Ice Battery
- 100mm insulation, direct cooling
- 30A MMPT charge controller inbuilt
- Kool Powerfoot with 24V 45Ah lithium battery
- 12V/24V (DC)
- 100W rated power
- 1 x AC/DC adaptor
- Refrigerant: R600a
- NW: 60kg
- GW: 63kg
- Machine Dimensions: 1100x635x845mm
- Packing Dimension: 1150x690x880mm
- Dual USB Ports for charging phones and appliances
- 2 LED Light Bulbs
- 3 years warranty
- Has options for 240V AC input to charge battery & block ice during dull days

KOOLBOKS

Fun all the way !



KOOLHOME FREEZER 538L

Technical Specifications:

- Capacity 538L
- 1 x 410W Mono Solar Panel
- 4 x Ice Battery
- Kool Powerfoot with 24V 100Ah lithium battery
- 65mm insulation, direct cooling
- 12V/24V (DC)
- 1 x AC/DC adaptor
- Refrigerant: R600a
- 180W rated power
- NW: 65kg
- GW: 70kg
- Machine Dimensions: 1540x675x845mm
- Packing Dimension: 1615x730x880mm
- Dual USB Ports for charging phones and appliances
- 2 LED Light Bulbs
- 3 years warranty
- Has options for 240V AC input to charge the battery & block ice during dull days

KOOLBOKS

Fun all the way !



KOOLBOKS POWERFOOT

The Koolboks Powerfoot (Kool Powerfoot) is a new addition to our range of solar-powered Koolboks freezers. It is a detachable independent power unit, with an integrated lithium battery to improve the quality and efficiency of refrigeration.

KOOL POWERFOOT PEDESTAL	158L (FULL OPTION)	208L	538L
Battery capacity	24V / 30Ah	24V / 45Ah	24V / 100Ah
Max input voltage	36V	36V	36V
Max VOC open-circuit voltage	50V	50V	50V
Max input current	15A	15A	15A
Loading (Output)	Voltage: 22-28V Current: 10A	Voltage: 22-28V Current:10A	Voltage: 22-28V Current: 10A
Max Solar Panel	1pc 320W/32V	1pc 320W/32V	1pc 410W/36V

KOOLBOKS

Fun all the way !



KOOLHOME COMBO FRIDGE + FREEZER 123L

The Koolhome Combo Fridge/Freezer product runs on sun and water. Instead of batteries, it stores solar power in ice and has an A++ class superior insulation quality. It maintains a suitable temperature for up to 48 hours with limited sunlight and operates at temperatures up to 43°C.

Technical Specifications:

- 123L Capacity
- 1 x 275W Panel w/ 10m cables
- 12V/100Ah Integrated Batteries
- 10 hours Charging Time
- 24hrs Cooling
- 3 Year Warranty
- Non-reliance on Power Supply

Small Outside Big Inside - Inside storage is made to fit user needs with the possibility to change.

See in The Night - With its front light, this fridge gives you a light source when you need it. It allows you to get light from the same solar source as the cooling system.

An Electric Source for All - Two USB outputs allow charging electronic devices and other small supplies at home at the same time.



Micro-Grid Solar Powered Solutions



MICRO-GRIDS are small-scale versions of standard grids, whose systems have a power generation capacity of 1kW to 10kW (World Bank Group, 2015), systems that generate 10kW to 10MW are called mini-grids and are one step up from micro-grids. It's also important to note that there is no universally accepted definition of micro-grids (or their bigger versions mini-grids), so the definition may vary depending on context and country.

The APEC (Asia-Pacific Economic Cooperation) defines micro-grids as networks that link multiple distributed power generation sources into a small network that supports & serves some or all of the energy needs of participating users (Microgrids for Local Energy Supply to Remote Areas and Islands in APEC Region, 2012). Micro-grids can operate independently from the main grid, as a stand-alone system off-grid, can be used as a hybrid system (with renewable energy), or serve as a backup to the main grid.

Micro-grids are quite relevant to the current power system situations in developing countries (like PNG) where power-consuming end users typically don't have access to high-quality reliable power, deal with frequent power outages, and have weak grid infrastructure due to under-investment (Handbook on Microgrids for Power Quality and Connectivity, 2020) and where topography hinders main-grid connection to rural, remote communities.

In the Asia Pacific, there is a growing understanding that microgrids are capable of bringing essential energy services to off-grid communities, where it would be more costly to extend the traditional main grid. Microgrids are sometimes the most cost-effective solutions for electricity access in rural and remote areas (USAID-NREL, 2020) and offer an opportunity to utilize local energy resources in the form of renewable energy.

In developing countries, entering the renewable micro-grid space can often pose a great challenge for microgrid developers and energy investors, because of underdeveloped energy policies, lack of access to finance (for end-users), and financial incentives (for developers) (IRENA, 2019), and regulatory issues, that create uncertainty in its economic viability and capabilities.

However, micro-grids will play a large role if the world is to achieve the energy access and renewable energy goals set out by the Paris Agreement¹ as well as the United Nations Sustainable Development Goals (USAID-NREL, 2020). They provide various benefits, including reduced energy costs, increased overall energy efficiency, improved environmental performance, local electricity system reliability, and provide opportunities for locals to have a sense of ownership, and responsibility for microgrid energy education (Microgrids for Local Energy Supply to Remote Areas and Islands in APEC Region, 2012).

At Solar Solutions, our solar-powered micro-grid solutions are plug-and-play systems that can cater to a wide range of small-capacity end-users and their energy needs, from private housing and small businesses to posing as a backup energy source.

Reference List:

2012. *Microgrids for Local Energy Supply to Remote Areas and Islands in APEC Region*. [ebook] INSTITUTE OF LIFELONG EDUCATION. Available at: <https://www.apec.org/docs/default-source/Publications/2012/12/Microgrids-for-Local-Energy-Supply-to-Remote-Areas-and-Islands-in-APEC-Region/2012_ewg_microgrids-Formatted.pdf> [Accessed 29 March 2022].

2015. *Scaling Up Access to Electricity: Emerging Best Practices for Mini-Grid Regulation*. World Bank Group, pp.1-8.

IRENA (2019), *Innovation landscape brief: Renewable mini-grids*, International Renewable Energy Agency, Abu Dhabi. Available at: <<https://www.irena.org/publications/2020/Handbook-on-Microgrids-for-Power-Quality-and-Connectivity>> [Accessed 27 April 2022].

Gokhale-Welch, C. and Beshilas, L., 2020. *Microgrids in Emerging Markets— Private Sector Perspectives*. USAID-NREL Partnership, pp.1-5.



**MISSION 1202
SOLAR POWER STATION**

Outputs that are convenient for Private Housing, Small businesses, Public Facilities, and Humanitarian Response.

Specification:

- 1.2kWh LiFePO4 long-life battery
- Pure sine wave inverter (1kW)
- Solar charge controller (30A MPPT)
- Battery Capacity Meter (LED)
- Safety control

System Includes:

- (2 x 330) 660W Solar Panel
- 4 x LED Light Bulbs with cables switches
- AC Charger 29.4V 6A (AC/DC adaptor)
- MC4 tools
- 4-way mobile phone charging cable
- User Manual
- 2 Years warranty

**MISSION 5100
SOLAR POWER STATION**

Outputs convenient for Housing, Business and Livelihood, Public Facilities and Micro Grid.

Specifications:

- 5.1kWh LiFePO4 long life battery
- 3kW Pure sine wave inverter
- Solar Charge controller (50A MPPT)
- Digital Panel Meter (MT50)
- Safety Controls

Systems Includes:

- 275W polycrystalline PV panel X 4 pcs
- 4pcs DC12V 6W super bright LED Light set
- 4pcs 10M lighting cables with switches
- 4-way mobile phone charging cable
- AC DC adaptor lithium charge
- MC4 tool.
- 2 Years warranty



MISSION 10,000 SOLAR POWER STATION

The M10K Solar Generator, supports utility charging, oil generator charging, solar charging, utility output, inverter output, and energy management. To maximise solar energy utilization, users can choose energy sources according to actual needs and flexibly take the utility as a supplement. This inverter charger can increase the system's power supply guarantee rate, which is suitable for solar energy, utility/oil generator hybrid systems and aims to provide users with high-quality, high-stability, and high-reliability electrical energy.

Specification:

- 2 x LFP Battery Units (51.2V, 100Ah, Total: 10240WH)
- 9 x 440W Solar Panels (PERC Monocrystalline)
- Solar Charge Controller (40A MPPT)
- 5KW Pure Sine Wave Inverter
- 2 x 6mm² PV cable (20m length)
- Utility cable with Plug
- 2 x MC4 disconnect tools
- Black and Red battery cable with connectors (2pcs,195mm length)
- 1 User manual
- 2 x 6m lighting cable & 2 x 10m lighting cable

Features:

- LCD Monitoring Screen
- Wheels
- Utility input terminal
- 12/24VDC outlets & 240VAC outlets
- 5V USB ports
- Fuse & Circuit Breaker
- Transfer switch
- Lightning arrester



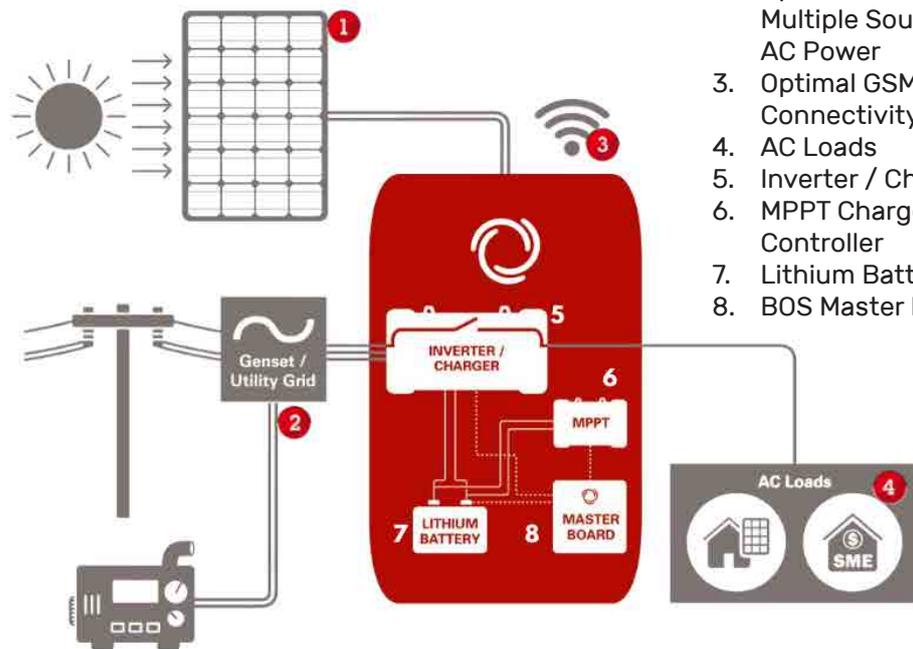


Balance of Storage Systems AG (BOS-AG) is a German Company, that offers Smart Energy Storage Systems that enable uninterrupted power supply in off-grid and unreliable grid scenarios. The off-grid HS Business BOS System sizes range from 5kWh (HS Business 5) to 10kWh (HS Business 10); both of which are scalable and can be upgraded.

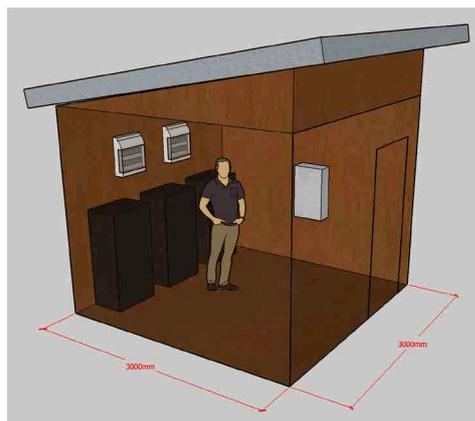
Designed for mini-grids, community facilities, businesses, and many more, these BOS HS systems come with different sized integrated Lithium (LiFePO4) batteries, that can operate by themselves or can be combined with lead-acid systems and diesel gensets (option to integrate multiple sources of AC Power). These BOS systems' smart modular designs and intelligent load management capabilities, make them adaptable in battery size, PV size, inverter power, output voltage, and frequency; suitable for remote, rural, and semi-urban areas with insufficient access to a reliable, quality power supply.

For more information about BOS, and how it can be utilized for upcoming projects or helping to bring electrification to rural communities, contact our sustainable development and technical team today to find the right energy storage solution for you.

-  INTEGRATED SOLUTIONS
-  PLUG & PLAY
-  PRE-WIRED / PRE-CONFIGURED
-  MODULAR & SCALABLE
-  RETROFIT LITHIUM / LEAD ACID
-  MULTIPLE POWER SOURCES
-  REMOTE MONITORING
-  COST EFFECTIVE
-  ON & OFF GRID



1. PV Panel
2. Option to Integrate Multiple Sources of AC Power
3. Optimal GSM Connectivity
4. AC Loads
5. Inverter / Charger
6. MPPT Charge Controller
7. Lithium Battery
8. BOS Master Board



HS business

ALL IN ONE SOLUTION – ALL THE POWER YOU NEED

	HS business 5	HS business 10
Nominal system voltage	48 V	48 V
Integrated lithium battery capacity	5120 Wh	10240 Wh
Inverter type	3 kVA	5 kVA
Inverter output	Pure sine wave	
AC power output	2400 W @25 °C 2200 W @40 °C 1700 W @60 °C	4000 W @40 °C 3700 W @40 °C 3000 W @60 °C
AC power output peak	6000 W	10000 W
Max. charge current from grid	35 A	70 A
AC grid bypass current	50 A	100 A
AC output voltage	230 V or 120 V	230 V or 120 V
AC output frequency	50/60 Hz adjustable	50/60 Hz adjustable
Second AC output	230 V or 120 V 16 A	230 V or 120 V 16 A
Max. PV size	5 kWp	10 kWp
Solar charger quantity and type	1x MPPT 250/60	2x MPPT 250/60
Max. PV open circuit voltage	250 V	250 V
Max. charge current from PV	60 A	2x 60 A
Self-consumption	< 35 W	< 35 W
Max wire size	35 mm ²	35 mm ²
Style of housing	Industrial enclosure	Industrial enclosure
Housing dimensions	600 mm x 410 mm x 1230 mm (L x W x H)	600 mm x 410 mm x 1230 mm (L x W x H)
Weight	155 kg	230 kg
Ambient temperature	0 °C to 50 °C, maximum battery life at 15 °C to 25 °C	
Protection	Overload, Overcurrent, Short circuit, Deep discharge, Wrong polarity	
Features	Prewired, Preconfigured, Ventilation and temperature management, LCD-Display, USB charging port, integrated global SIM card with credit for remote GSM access, PAYG remote control, Individual system monitoring and aggregated cluster monitoring, Lithium balancing, Two individual controlled AC outputs, Priority selection AC in/Solar	

DATASHEET IS SUBJECT TO CHANGE. REVISION MAY 2020

NOTE: CHANGES TO THE PRODUCTS AND THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE ANYTIME WITHOUT NOTICE.

Outdoor Solar Solutions



PBOX®

MODEL	PBOX 15W X5A15W	PBOX 30W X5BN30	PBOX 50W X5FR50W	PBOX 80W X6W80
Light Output Source (Watts)	15W	30W	50W	80W
Brightness (Lumens)	1800	3600	7500	9600
Solar Panel (Watts)	35 W	55W	130 W	130 W + 130 W
Lithium Battery (Wh)	154	308	615	820 + 820
Recommended Height (meters)	5m - 6m	6m	6m - 8m	6m - 12m
Installation Distance (meters)	12m - 15m	15-25m	25m - 30m	25m - 40m

Benefits:

- Monocrystalline Solar Module
- Efficient Controller with a battery management system
- Lithium-ion Batteries
- CREE LED Chips
- Motion Sensor (30% Brightness to Full Brightness when motion is detected.)
- Day Light Savings
- All in One type
- Weather Protection (IP65)
- Promotes environmental sustainability
- Encourage people to have more productive lives at night
- 3 Year Manufacturer Warranty





MODEL	SWIVEL TYPE		ULTRON SERIES STRAIGHT TYPE
	AE3CR5520NMC	AE3CR8030PMC	AE5S180V12B108L60
Light source	20W LED	30W LED	2x30W LED
Brightness	3000 Lumen	4500 Lumen	9000 Lumen
Solar panel	Mono 55 W	Mono 80 W	Mono 180 W
Lithium Battery	24 Ah (308Wh)	24 Ah (308Wh)	108 Ah (1382Wh)
Recommended Height	4m - 7m	4m - 7m	8m -12m
Installation Distance	15m - 25m	15m - 25m	30m - 45m

Benefits:

- All in One design-long lifespan, minimal maintenance and easy installation.
- High Efficient controller
- Battery Management System - battery life span is over 8 years CREE LED
- Infrared Motion Sensor
- Weatherproof - free from corrosion and premature failure
- Promote environmental sustainability Encourage people to have more productive lives at night
- Anti-theft system - comes with specific Allen Key
- 3 year Manufacturer Warranty



Solar Bollard[®] Lighting



The 3rd generation SBL2 Model solar powered bollard light was specifically designed to be capable of submersion (IP68) for lighting of Pathways, Driveways, Laneways, Stairways, Marinas, Pontoon/Jetties, Floating Walkways, in public, mining and military locations where cyclones-hurricanes-typhoons, tidal surges, tsunamis, and generalised flooding is prominent. With various power models also for locations that are partially to fully shaded throughout the day.

- KEY FEATURES OF THE SBL2 OVER COMPETITORS & ON-GRID PRODUCTS**
- Low cost and quick installation, no trenching, cabling or wiring required
 - IP68 Certified submersible
 - IK10 Certified can withstand impact from floating/flying debris & vandalism
 - Isolated from power outages for continuous illumination
 - Up to 70% more real autonomy than competitors at full power
 - 10 Year Australian manufacturer product and performance warranty
 - 100% Recyclable Product

From vandal attack, severe high wind events, flood disasters, monsoonal rain, crashing waves, golf ball size hail or just daily snow coverage, no similar product will out perform the IK10 impact resistant construction of the SBL2, making it the perfect asset for durability and continuous performance at full power dusk until dawn operation 365 days of the year in high risk or heavily shaded areas where continuous lighting is required.

TECHNICAL SPECIFICATIONS

Overview

- **Dome Material** SABIC SLX LEXAN (Highest UV Stabilised PC available)
- **Housing Material** SABIC PC (UV Stabilised)
- **Internal Materials** ASA
- **LED Chips** 8 x 5mm Piranha LED Super Bright
 - Asymmetrical Light Distribution
4000K +/- (Natural White) / 3000K +/- (Warm White)
 - Symmetrical Light Distribution
4000K +/- (Natural White) / 3000K +/- (Warm White)
- **Voltage** 3.2V (ELV intrinsically safe no UL certification required for USA)
- **Operate Temp** -30°C ~ +60°C external ambient (runs safely up to 100°C)
- **Maintenance** Annual clean and polish for peak performance
- **Warranty Term** 10 Years including battery (subject to SBL Warranty T&C's)
- **Certifications**
 - IP68 OFFICIALLY TESTED (AS/NZS 60529:2004 IPx8, IP4x, IP6x)
 - IK10 OFFICIALLY TESTED (IEC 62262:2002)
 - Photometric (IESNA LM-79-08)
 - Hazardous Area/CE/RCM (T.B.T)
- **Weight** Net Weight 3kg (6.6lbs)

Solar Module

- **Wattage** 5w Mono-Crystalline
- **Vmp (V)** 5V
- **Imp (A)** 1 Amp
- **Design Life** 10 Years @ 100%

Battery

- **Type** 3.2V 17Ah Cylindrical LiFePo4
- **Cycles** 3700 (expected minimum)
- **Design Life** 10 Years

Electronics



- **Design Life** 10 Years + (expected minimum)
- **Runtime** Dusk until Dawn full power
- **On/Off** Solar Panel Voltage

Poles

- **Material** 6106 T6 Aluminium Marine Grade
- **Grade** High Tensile / Light Weight
- **Durability** High Corrosion Resistance
- **Collar** 25um Anodised
- **Hardware** Security Bolts 4 x M6 - 316 SS



IP68 Submersible



IK10 Vandal Resistant



No Power Bills



Simple & Low Install Cost



Clean Energy Lighting



Minimal Maintenance



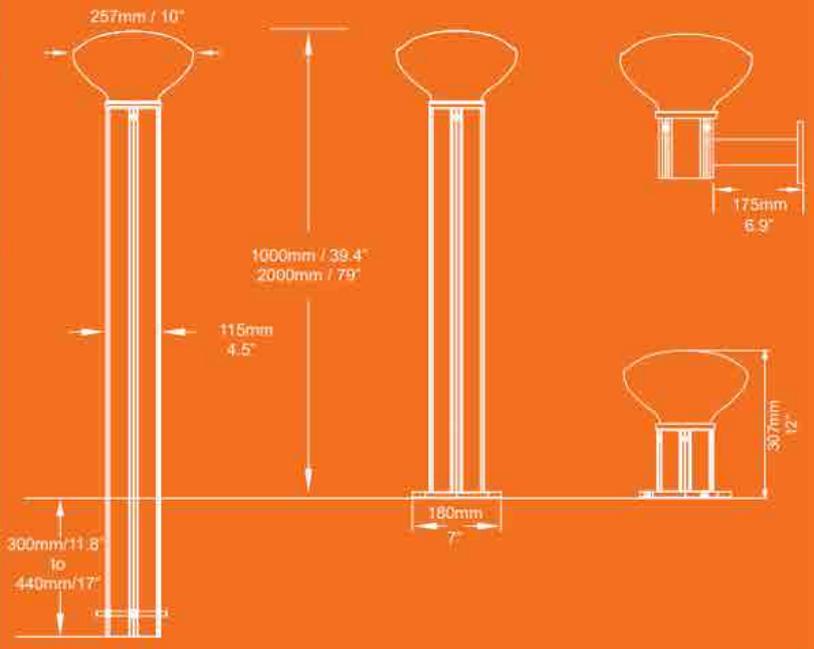
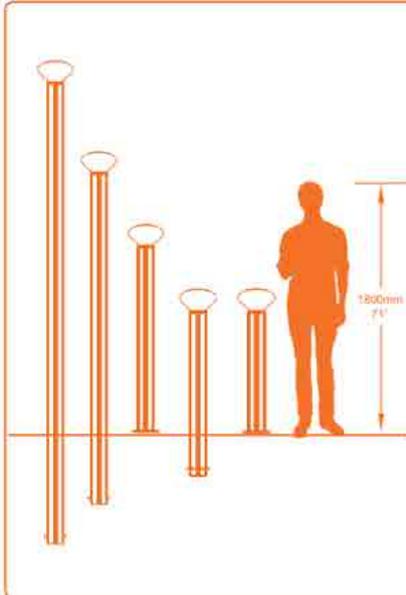
100% Recyclable

Solar Bollard[®] Lighting



SBL2 Series S Model

Solar Powered LED Bollard



Pathway



Driveway



Stairway



Floating Walkway



Mine Site

Wolf-Eye II

PTZ DOME SOLAR CAMERA 2.5 inch

Wifi Version & 4G Version

MODEL	TSZ-2.5C-200Y	LY-2.5C-200Y+4G-05	LY-2.5C-200Y+4G-06
Solar Panel	45W/5V	80W/6V	100W/6V
Battery	40Ah	80Ah	120Ah
Camera Pixel	2MP or 3MP		
Zoom Factor	Zoom 5X		
Network Version	3m - 5m	4G and Wifi Version	
Image Resolution	1920 x 1080P		
Storage	Standard 32GB		
Working time (on full charge)	2-3 Days	3-5 Days	

Summary Features:

- Aluminium Alloy casing
- Mobile Phone remote – support IOS/Android/PC
- Alarm Notification
- Rotation and zoom lens
- Motion detection and alert to phone or via email
- Waterproof IP65
- Support up to 100m coverage



STEPS IN GETTING A QUOTE & PURCHASING OUTDOOR SOLAR LIGHTING SOLUTIONS - STREET LIGHTS:

Contact our experts on:
+675 7626 7708 / +675 7352 9034
or email: **info@solarsolutionspng.com**
for streetlight inquiries.

Visit our Port Moresby or Lae Branch today!

We provide Lighting Charts of your location, to find the best-suited streetlight model for your outdoor lighting needs. Quotes and Freight to your destination nationwide can also be arranged.

(Terms and conditions apply)





Water & Sanitation Solutions

Future pump



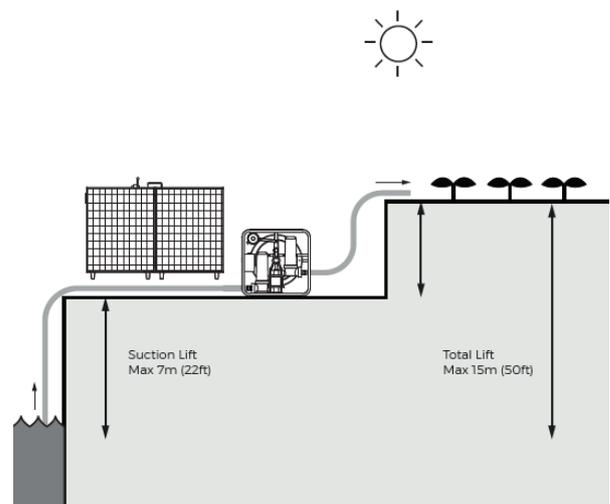
The Futurepump range of Solar Powered Irrigation Pumps are robust surface pumps designed to help smallholder farmers with a shallow water source, pump water to their crops using the power of the sun. These are portable devices that comprises of two parts, the pump, and a separate solar panel, making it very easy to carry and move them around the farm; and the removeable PV panel reduces theft risk and aids portability.

	Futurepump SE1	Futurepump SF2
Flow rate	Up to 0.5 L/s	Up to 1 L/s
Irrigable area	Up to 1 acre	Up to 2 acres
Solar panel wattage	60 W	120 W

Benefits:

- Zero fuel or electricity costs
- Easy installation and maintenance
- Portable
- Ideal with tanks, sprinklers, hoses or drip systems
- Removable, folding PV Panels reduces theft risk
- Tolerant of grit, sand, mud and debris
- Solar Panel tilting system for best performance

Every Futurepump product comes with a standard spares and tools kit and a full 5 Year Warranty.



PORTA TANK

SAVE WATER



DIY PICK UP AND GO PORTABLE WATER TANK

Portatank is a South African designed and manufactured, fully portable water storage solution capable of holding 2650L, 4800L & 10,000L (our available sizes). It's a quick-to-assemble, disassemble and reassemble unit.

Benefits:

- **Transport:**

Clever design and compact packaging means the Portatank can be easily bought off-the-shelf and transported in a passenger vehicle.

- **Durable & Safe:**

High quality PVC bladder, seals and stores water and is approved by the Australian Water Quality Center.

- **Simple Installation Anywhere:**

With easy to follow instructions, Portatank can be assembled in an hour, perfect for rural and urban settings and when needed can be dismantled, moved and reassembled.



Foot Pump

PORTABLE HANDWASHING STATION

Our Portable Hand Washing Stations are free-standing, extremely lightweight and have a hands-free footpump operation. The fill point next to the basin, drains grey water out through the back port. It holds 120L of water, 4500mm wide, 800mm High.

Features/Benefits:

- Suitable for high-traffic events (i.e market places & public spaces)
- Serves as a practical hand washing facility without the need for plumbing, but plumbing to tank/town water is optional
- Wastewater can be discharged into rubble drain, tank or sewer.

Lifestyle Solutions



CLEAN COOK BIOMASS STOVE

The Clean Cook Biomass Stove offers a cleaner alternative to open-fire cooking. Its clever design makes outdoor cooking safer and more efficient.

Fuel Saving: Uses 70% less fuel than the open fire method.

Time Saving: Cylindrical stainless-steel design and cast-iron stovetop ensure heat is concentrated on the pot, meaning your food cooks quicker.

Health Benefits: The Biomass Stove produces less smoke than an open flame, reducing the inhalation of harmful toxins.

Environmental Benefits: Improved forest ecosystems and reduced carbon emissions.



CLEAN COOK

STAINLESS STEEL GAS STOVE



Available as a Single or Double Burner, with whirlwind flame. Features of this tabletop gas stove include a 0.4mm stainless steel body, cast-iron pan stand, 90mm burner(s) with titanium burner cover, automatic ignition, and LPG gas type.

Stainless Steel Gas Stoves Key Benefits:

- Durable and Portable
- Whirlwind Flame distributes heat evenly, and instantly heats up, cooking food faster
- Easy to clean and maintain
- Save on power bills
- The Health Benefits of using LPG, are less harmful fumes produced than an open fire or kerosene stove.

CAST IRON GAS STOVES



Cast-iron burner is available as Single or Double. Zinc alloy valve, with Australian style fitting cog. A Single weighs 1kg and a Double weighs 3.6kg.

Cast Iron Gas Stoves Key Benefits

- Durable and Portable
- Easy to clean and maintain
- Save in power bills
- No need to wait for stove to heat up
- Uses LPG, producing less harmful fumes compared to open fires and kerosene stoves (health benefits)
- Safe to use for indoor and outdoor cooking.

CLEAN COOK



CAST IRON WOK

Cast Iron Seasoned Woks
Available in sizes: 24cm & 31cm



CAST IRON POT

26cm Cast-Iron Pot.
Long Lasting, Durable and perfect for Indoor or Outdoor Cooking.



CAST IRON SKILLET

Long-lasting, durable skillet that can be used for indoor and outdoor cooking. Two handles for easy grip and carrying. Two spouts to pour excess liquid with ease.



CAST IRON DUTCH OVEN

Cast Iron Dutch Oven: Soups, Stews, Baking, Searing and so much more. Perfect for Indoor/ Outdoor Cooking, with long wire handle, used for handling pot when too hot/ hanging over a fire, etc.



CAST IRON OVEN TRAY

Long-lasting, Durable & Perfect for Indoor/ Outdoor Cooking.
Dimensions: L (33cm) x W(23cm x H(6cm).



CAST IRON 2-IN-1 SOUP POT

9 inch Lid Pan & 10 inch Bottom Pot. Can be used as 2 separate pans or soup pot with Lid. Two handles for easy grip. Perfect for Indoor/ Outdoor Cooking.



CAST IRON SKILLET SET OF 3

10, 7.5 & 6inch Skillet Set. Long-lasting, durable and perfect for Indoor/Outdoor Cooking. Each pan has two side spouts for pouring out excess liquid easily.



DOUBLE SIDED BBQ GRILL PLATE

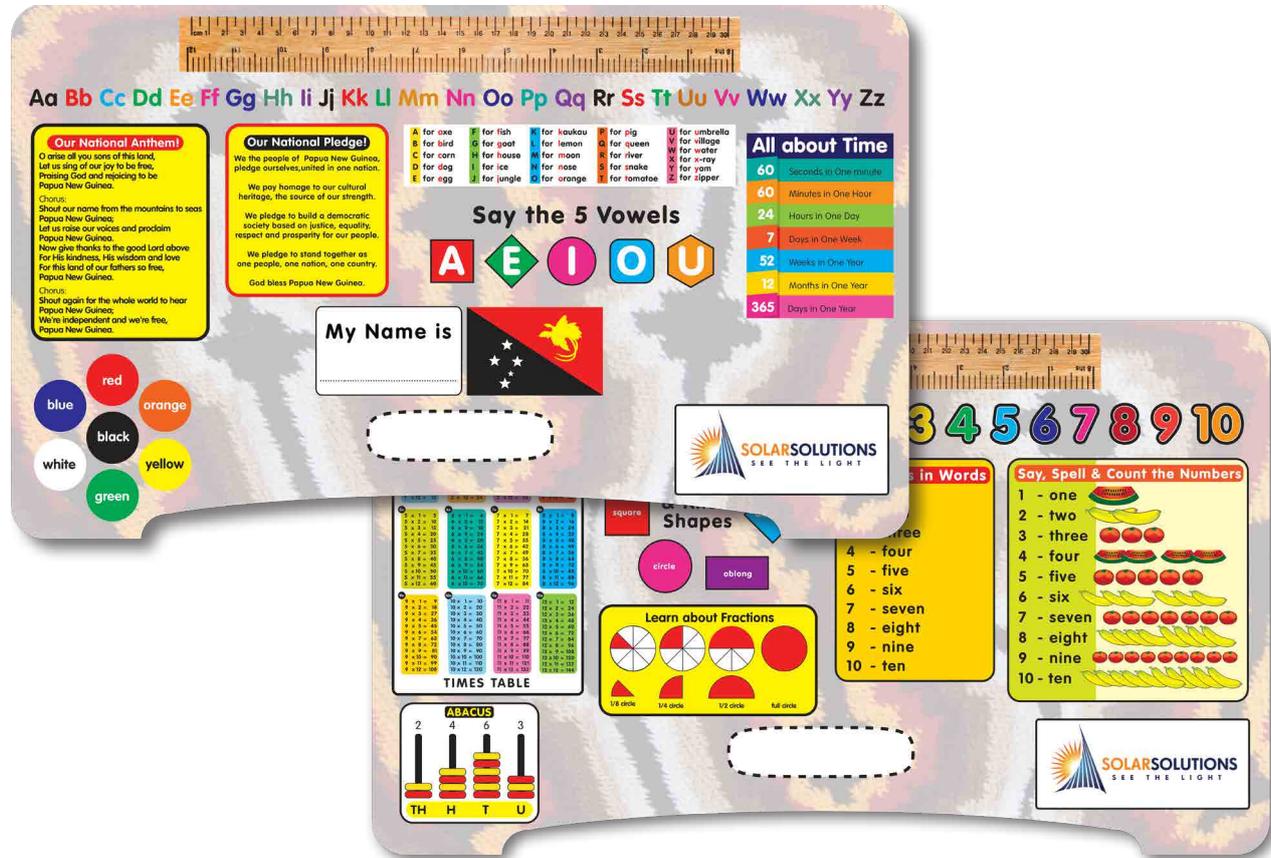
Round double sided cast iron grill plate with wire handles. Ridged on one side for grilling meat and to char grill vegetables. The reverse has a smooth surface. The coiled wire handles keep cool when the grill plate is in use and make it easy to move when complete.



CAST IRON BBQ GRILL

Long - lasting, durable, 3-legged Cast Iron BBQ Grill. 17inch BBQ Plate, 45cm Height. Portable, Easy to clean, simple design to put over open fires and cook on.

LAPDESK FOR STUDENTS (ELEMENTARY & PRIMARY)



Lapdesks are a portable and personal writing surface. We have designed two lapdesks for Elementary and Primary Grades. Relevant and Useful information are printed on the desks for easy reference.

Benefits:

- can be used in class and at home
- improved learning experience
- improved handwriting
- improvement in homework delivery.





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