

SUSTAINABILITY IS OUR PASSION

**SINCE
2015**

ESCO

ENERGY SERVICE COMPANY

Planet, People, Profit
Future Generation
Harmony
Nature

**WE
CARE
FOR**



SHAMAR[®]

Sustainable Solutions Pvt. Ltd
www.shamar.in



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SUSTAINABILITY IS OUR PASSION

Our Channel Partners



Vision

A sustainable and harmonious world with clean energy, clean water and clean environment.

Mission

Enlightening, inspiring and motivating the society to conserve by preserving resources and to practice carbon neutral and zero waste technique.

Purpose

To enable institutions and individuals to live sustainably and to decarbonize the economy. Our business is promoting Sustainable Solutions by doing good for the planet, community, nature and future generations. The well-being of all creations is the real meaning of "Shamar" (The Hebrew word to keep it in its original beauty, vitality and agility for serving its intended divine purpose). We have to nurture all creations in its broader sense, balancing all its vital components and systems.

Known Strengths of SHAMAR

- Strong passion for Sustainability
- Technological Superiority
- Expertise in Project Management and Engineering
- End to End Thinking and Planning
- Complete Innovative Solutions
- Incomparable Wide-Range of Services
- Digital Scalability
- Close Customer Care Service for Delightful Experience
- Local Presence with Skilled Technicians

MESSAGE FROM THE FOUNDER & MANAGING DIRECTOR

Dear clients, well-wishers and supporters,

Now there are three serious existential crises for the humanity and the planet-our only home, namely **Climate Change and Global Warming; Pandemic and Resource Depletion**. We as an individual, a community and a nation can do a lot in mitigating the impacts of these crises.



Mr. A. Luke

At the very outset we have to respect the Nature and all its inhabitants. As the Father of our Nation- **Mahatma Gandhi** said, **"The world has enough for everyone's needs, but not everyone's greed"**. The inequity, injustice and unrighteousness within the larger society have to be wiped out. We have to care for our future generations. We have to focus on the higher purpose and noble values of our actions. I inherited these values for a purpose driven life from my grandfather, Attupurathu Achan (Late Rev. A. M. Lukose Kassissa). We have to keep the entire creation in its beauty, vitality and agility. We have to serve and care for the creation.

There were so many influencing factors that developed a passion for sustainability within myself. The books that have initiated this interest for sustainability and its urgency are "Silent Spring" by Rachel Carson, 1962; "Small is Beautiful" by E. F. Schumacher, 1973; "Limits to Growth" by Club of Rome, 1975; Our Common Future (a.k.a. Brundtland Commission Report), 1987 and the documentary film "Sustainable Nation".

Shamar Sustainable Solutions Pvt. Ltd. is founded for His higher purpose and its entire value proposition is refined continuously for caring, serving and supporting. But this framework has to be sustainable in a business perspective as well. My father, Late Sri. A. L. Abraham, is the co-founder of Attupuram Enterprise and Attupuram Chit fund. Later, those financial firms were sold to his other partner. His business ethics such as integrity and promptness in deals and his emphasize on long term relationships with the clients has influenced me a lot. I also inherited his entrepreneurial spirit, which has urged me for founding this company for a larger purpose.

We are mainly in the business for decarbonizing the economy and maintaining sustainability for future generations. We think long term. We support a new paradigm for development, our primary concern is to enhance the quality of our environment and meet our needs locally in a resilient design frame. Feminine perception along with global connections and aspirations are ingrained in our structure. Moreover, we are extremely proud to mention that our company was established, on 2015, proactively a few months before the **Paris Climate Agreement** was drafted. By going through the following corporate brochure, you can feel the values and concerns we keep close to our heart.

DIRECTOR



Mrs. Daisy Luke

We keep utmost integrity and transparency in every deals and communications. We inherited fundamental qualities like enterprising attitude and compassion from our ancestors. We focus on fair deals and on right procedures by strictly complying with all government rules and regulations.

My wife, Mrs. Daisy Luke, being the other director of the company, takes a keen interest in leading the company according to the values, purpose and perspectives we inherited as a family.

The necessity for fast, smart and safe solutions are evident from the words of the climate activist, **Greta Thunberg**,

**“I want you to act as you would in a crisis.
I want you to act as if our home is on fire. Because it is.”**

- GRETA THUNBERG

We, at Shamar, accept **Greta's** innocent and genuine calls. We are ardently working to rectify the common misconception that a strong economy and a healthy environment cannot co-exist. We are in the business for the People, Planet and Profit, by following the Triple Bottom Line framework. We believe that our company and our endeavors would be an inspiration for the formation of numerous future Clean-Tech companies. As **Nelson Mandela** said, “It always seems impossible until it's done”.

For setting the goal we follow the words of UN Secretary General, **Mr. Antonio Guterres**,

“Preventing irreversible climate disruption is the race of our lives and for our lives. It is a race we can and must win. We need rapid and deep change in how we do business, generate power, build cities and feed the world.”

- MR. ANTONIO GUTERRES

Our Immediate Future Plan

We wish to be a leading **ENERGY SERVICE COMPANY (ESCO)** operator in this part of the world within the next 5 years.



PROFILE OF MANAGING DIRECTOR



Mr. A. Luke

Mr. A. Luke is an Electrical Engineer (Graduated in 1969). He has **50 years of experience** in power grid management in several countries like India, Germany, Saudi Arabia, Kuwait, UAE, Sultanate of Oman, Nigeria and Ghana. He has provided leadership in commissioning **30,000MW of Conventional Power Plants**, mostly gas based. He has worked in two largest oil companies namely **ARAMCO** and **ADNOC**, and in the world's largest aluminium smelter plant, **EMAL**. He has also worked in a large international engineering company, **Lahmeyer International GmbH** for their Doha West Power Plant (2400MW). His expertise in management of multi-billion dollar projects is exceptional. He was a member of project management team on behalf of the above clients. Projects were executed by leading Global Engineering companies such as **Bechtel, Fluor, Siemens, GE, Mitsubishi, SNC Lavlin, ABB, Samsung** and so on. In connection with project management, he has extensively travelled to **more than 40 countries** (including *USA, UK, Italy, Austria, Sweden, Denmark, Netherlands, Korea, Japan, Singapore, Hong Kong, Czech Republic, Israel, Turkey and so on*).

He is now the Managing Director of **Shamar Sustainable Solutions Pvt. Ltd.**, engaged in strengthening all kinds of quality sustainable services including energy audits, renewable energy projects, energy efficiency projects, water recycling plants and waste management. He is an active member of associations like **KREEPA, AEEE and SEEM**. He is extremely passionate in Sustainability and he spends time to take academic classes on the criticality of promoting Sustainable Solutions. He strongly advocates the needs for mitigating the impacts of **Global Warming, Climate Change and Pandemics**; protection and enhancement of the environment and decarbonization of the present economy. His broad knowledge, multidisciplinary engagement and unparalleled experience from 50-year career and international exposure plays a crucial role in the growth and excellence of our company.



Mr. A. Luke was bestowed with ***Lifetime Achievement Award by TKM Trust*** on Feb 2020 for promoting sustainable solutions. Through Shamar Sustainable Solutions Pvt. Ltd., he established more than 400KW of Solar Power Plants, within last 5 years, and audited energy usage in several hospitals, resorts and other significant power consumers. ***Our company is an accredited energy audit firm by EMC in Kerala.*** Moreover, the company is a distributor of energy efficient equipment such as solar water heater, solar power plants, LED lights, solar street lights, solar inverter, water purifiers, BLDC fans and BLDC motors. In terms of CO₂ emissions, we have contributed to the overall reduction of more than 730 tonnes of CO₂ per year. That is equivalent to the amount of CO₂ absorbed by 35,000 fully grown trees.

OUR SERVICES

- ◆ Renewable Energy Projects
- ◆ Water Purifiers ,Water Recycling
- ◆ Technical Failure Analysis
- ◆ Safety Audit
- ◆ CCTV Automation, Remote-Monitoring and Controlling
- ◆ Waste Management
- ◆ Solar Power Plants
- ◆ BLDC Fans (Energy Efficient Fan)
- ◆ HVLS Fans
- ◆ LED Lights
- ◆ Solar Water Heater
- ◆ Electrical Services
- ◆ HVAC/Heat Pumps
- ◆ Energy/Water Audits
- ◆ Electric Vehicles
- ◆ Solar Lights/Garden Lights
- ◆ Charging Stations
- ◆ Decarbonizing of Automobile Engines
- ◆ Organic Framing/Roof Top Gardening
- ◆ Landscaping/Development of Parks
- ◆ Vertical Gardens/Butterfly Parks
- ◆ Battery and Charger
- ◆ Online UPS and Inverters

YOUR TRUSTED PARTNER FOR SUSTAINABLE SOLUTIONS

PROBLEMS

SOLUTIONS

High Electricity Bill

- Energy Auditing
- Efficient Appliances
- Renewable Energy
- Automation / IOT / Artificial Intelligence
- Effective Controls
- Value Analysis
- High-Tech Application

Frequent Power Interruptions And Fluctuations

- Off-Grid Solar Inverters
- Hybrid Solar Power Plants
- Servo Stabilizers

Equipment Damages due to Poor Power Quality

- Power Quality Assessment
- Surge Protections
- Lightning Protections

Water Issues

- Water Survey
- Water Testing
- Water Recycling
- Water Purifier

Waste Management

- Biogas
- Composter
- Incinerator, Plasma Burners
- Waste Sorting at Source
- Recycling

Security

- CCTV, Alarms, Solar Lights

Health/Protection from Pandemics

- Personal Hygiene
- Hands-free Sanitizer
- Mask, IR Thermometer
- Oximeter

Climate Change and Universal Sustainability Issues

- Decarbonization
- Electric/Hydrogen Mobility
- Carbon Recycling
- Resilient Designs
- Adaptation Procedures



ELMEASURE®
Possibilities...Infinite



We use these state-of-the-art technologies to achieve an optimization of the operating cost with respect to energy consumption by our customer



Energy Management

- Bringing down the operational expenses
- Helps to take smart decision
- Quick Planning on Production
- Avoid breakdowns, process interruptions
- Monitor equipment efficiency
- Study of energy cost vs production
- Reduction in energy cost
- Planned preventive maintenance
- Equipment wear & tear, deterioration
- Manpower planning
- Accurate MIS reporting/decision making
- Helps to bring down the operation cost be 10-12%

Meet the IoT-based solution

The IoT platform collects data from the plant and follows Elmeasure's 4-step energy efficiency plan of measure, detect, manage and conserve, which helps not just to ask the right questions but to find the answers to them. .



Measure:

This is a flexible, low-cost metering solution for energy management. Various meters feed data through a Webenabled gateway, providing a complete solution for many smaller campuses or businesses.



Detect:

Our solution captures energy consumption in different equipments / zones and process parameters like flow, pressure, counts, machine status, compressed air, ambient conditions and manage them to optimize energy.



Conserve:

Monitoring the breaks in preparatory segment and Ring frames performance in spinning process has the potential to bring down the operating cost by 10% to 15% which is a direct saving/ profits.



Manage:

Our solution will enable to manage the entire plant in the areas of Predictive maintenance, Improve the operation efficiency, Identify the machine performance at a glance through smart UI, Bench marking different operational parameters.



Water Management

- Works well with any type of communication either wired or wireless
- Effortless integration with facility services platforms
- Helps customer to track there pay out of water consumption using there mobile
- Smart cloud based system (Cost Effective)
- Efficient asset management and distribution engineering design.
- Non-invasive and retrofitting.
- Accurate real-time data on the web.
- Daily, Weekly, Monthly reports at the click of a button
- Regulate water use and demand. Y Saves water and cost



Process Automation

- Live online tracking on energy, production, process parameters fuel & cost
- Electrical and Non Electrical parameters at a Glance
- Plant productivity in one touch of your finger
- Identify the wastage and productiveness
- Reduction in carbon foot print
- Smart cloud based platform for better visibility across the region
- Spot the wastage & malfunction
- Benchmark, back up, security & notifications
- Corrective / predictive maintenance
- Single click to control required feeder

Smart steps for efficient enterprises...



gorilla[®]
INDIA'S MOST ENERGY EFFICIENT FAN

**We are distributors as well as
the authorised service partners.**

3 YEAR
WARRANTY

On-site warranty



Highest Rated and Reviewed
Fan On Online Platforms



More than 2,00,000
Happy Customers



An IIT Bombay
Alumni Venture



super energy efficient
BLDC Motor



65% lesser power
consumption helps you
save up to ₹1,500 per year



**Only 28W power
Consumption on
highest speed**



smart remote
with boost, sleep and
timer mode option



**Wide operating
Voltage Range of
110 - 285 volts**



**Only 28W power
Consumption on
highest speed**



3 Years
of on-site
warranty



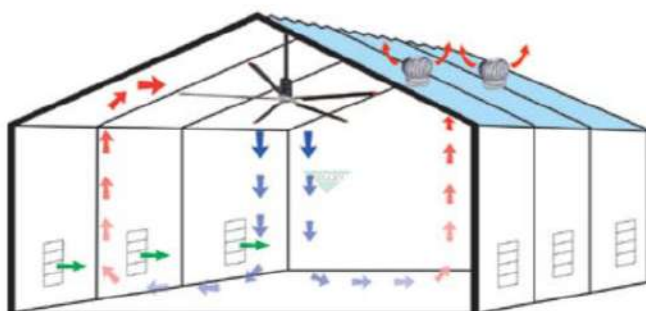
Rust Free
aluminium
bodies



zero heating of
motor results in
increased life of fan

HVLS Fans

Kelley® and Serco® Industrial High Volume Low Speed (HVLS) Fans circulate air efficiently which positively impacts many factors in your facility. The airfoil style blade design produces a massive, cylindrical column of air that flows down to the floor and outward in all directions, creating a horizontal floor jet that consistently circulates air in large spaces. This “horizontal floor jet” pushes air to a greater distance before it is pulled back vertically towards the blades. The greater the down flow, the greater the air circulation and resulting benefits. In the colder months, fans can be run in reverse direction to circulate the hot air trapped at ceiling level known as “destratification”.



Typical Airflow Diagrams for an HVLS Fan

Features	Specifications	Benefits
Sizes	- Diameter: 8 to 24 Feet	- Ideally suitable for different sized facilities
Motor Power	- For Fan Dia. 8'-20': 1.5 HP - For Fan Dia. 24': 2.0 HP (All Motors are 3ph, IE-3 Design)	- Low power consumption leading to very low operating cost - Supports LEED rating
Area Coverage	- Upto 30,000 sq ft with a 24' Fan (Under ideal test conditions)	- Uniform airflow in large area requiring lesser fans - No Black Spot - Each person gets sufficient air - Unbelievably quick Return on Investment "ROI"
Noise Level	- Less than 60 dBA	- Almost noiseless operation - Improves workmen concentration - Better workmen productivity
Weight	- 24 feet HVLS Fan weighs 108 kgs.	- One of the lightest HVLS Fans in the industry thus safer and consumes less power
Control	- Digital Touch Screen Remote Control - One touch operation - Fault code diagnosis	- Easy operation - Easy maintenance and upkeep - Minimise mishandling
Optional Accessories	- Mounting Extensions (1 ft to 10 ft) - Extra Wide Beam Pivot Bracket - Multi-Fan Remote (2-4 Fans)	- Suitable for facilities with different heights and structures - Easy control of multiple fans with a single remote
Comfort	- Airfoil blades ensures uniform airflow	- 2-3 mph breeze created by fan - Decreases perceived temperature by 7-11 degree F - Increases comfort and improves productivity



Motor Size

- 1.0 HP (all blade size)

Fan Diameter

- 12 FT (3.7 M)
- 16 FT (4.9 M)
- 20 FT (6.1 M)

Available Options

- Mounting extension
- Extra wide beam plate
- Laminated wood beam brackets
- Truss span mounting kit
- Z-Purlin mounting kit

Fan Voltage

- 110 V single phase
- 208-240 V single phase
- 208-240 V 3 phase
- 380-480 V 3 phase
- 575 V 3 phase



Design Highlights

- Clear anodized blades
- Optimized 3-blade profile for low speed rotary airfoil application and near ground effect
- NACA airfoil profile reduces drag while producing more airflow
- Fan safety system incorporates steel hub, aircraftgrade safety cable and guy wires
- NEMA 4X variable frequency drive
- Disconnect included
- Forward/reverse, start and stop from the VFD display

Construction	
Frame	Black Powder Coat / Welded Steel Fabrication
Hub Assembly	6061-T6 Aluminum
Blade Struts (Invertible)	Clear Zinc / High Tensile Steel
Blades	Anodized / 6063-T6 Aluminum

Safety Components	
Steel Hub Plate	
Safety Cable	Galvanized 1/4" x 7 x 19 Steel Aircraft Grade Cable
Guy Wires	Galvanized 1/8" x 7 x 19 Steel Aircraft Grade Cable
Rotor Retaining Ring	Zinc Plated / 3/16 A569 Steel

Mounting Hardware	
Standard Mount	Universal I-Beam Clamp w/ Swivel Joint & 7" Drop
Laminated Wood Beam Clamp (Optional)	Brackets
Extra Wide / Thick I-Beam Mount (Optional)	Consult Factory
Additional Drop Extensions (Optional)	Up to 10 FT in 1 FT Increments

Source Voltage	
Standard Power	110V 1Ø or 208-230V 1Ø or 3Ø, 380-480V, 575V 3Ø

Gearbox and Motor	
Enclosure / Insulation Class / Efficiency Class	IP55 / F / IE3
Type	2-Stage Helical
Service Interval	Lubed For Life

VFD Assembly	
Enclosure	NEMA 4X
LENZE Wash Down Druty Inverter	All in One VFD Control
50 Hz Operation (Optional)	60 Hz Operation
Disconnect	Panel Mount, UL/CE
UL Certified / cUL / EAC / C-Tick	-10 to 55C @ 6kHz / 14

Fan Size	Hanging Weight	RPM
12 FT 1.0 HP	181 lbs. (86 kg)	125
16FT 1.0 HP	198 lbs. (94 kg)	92
20 FT 1.0 HP	214 lbs. (105 kg)	72



Control Panel



Solar Management Unit (SMU)

- Convert your Home Inverter into Smart Solar PCU.
- Available at 12V/24V- 40A.
- High Speed and High Performance Microcontroller.
- High Reliability with Longer Operational Life.
- Inbuilt Protection to avoid Battery under charge and over-charge.
- Inbuilt PWM Technology Charge Controller.
- Automatic voltage selection for 12V or 24V.
- Solar Prioritization.
- Compact Design with Wall Mounting.
- Eco-Friendly.



Offline Solar PCU (GAMMA)

- Available in 2kVA to 5kVA.
- Upto 30 % more Efficient because of rMPPT Charge Controller.
- DSP/Controller based design, Pure Sine Wave.
- Maximum preference to Solar Power.
- Extensive Electronic Protection.
- Digital Display.
- Robust Design (21 years product life).
- User Friendly:- NSDL, Grid charging, IT Load, GENSET (Enable/Disable by LCD) & Operating Mode (Selectable).



Solar String Inverter (Grid Tie)

- Available in 1kW to 60kW.
- Transformer less Inverter.
- Intelligent redundant fan cooling.
- Wide MPPT Voltage Range with Dual and Quad MPPT Design and Precise MPPT Algorithm.
- IP 65 Certified.
- Integrated DC switch.
- Wi-Fi and Monitoring Application Available.
- Multiple Protection Level.
- Maximum efficiency over 98.6%, EU Efficiency over 98.2%.



Solar Home PCU (GAMMA+)

- Available in 1kVA / 12V & 24V
- Controller based design, Pure Sine Wave with 100% tracking of Solar Panel.
- Built in rMPPT Charge Controller.
- Multi-colour LCD Display.
- Freq:- Available – 50Hz & 60Hz
- Multi Stage Charging (Bulk, Absorption, Float).
- Solar priority of Load & Battery Charging.
- Preference to Solar Power over Grid Power.
- Compatible with IT Load.
- Compatible with SMF, Gel & Tubular Batteries.
- Priority Mode Selections- PCU, Smart & Hybrid for saving money and energy.

3 Phase Lift UPS 6kVA to 20kVA



It is an honour for us to present a Three Phase Inverter which is capable of driving Lifts/elevators & other three phase machines like Air conditioning compressors, water pumps, CNC machines. These three phase inverters are designed to ensure uninterrupted power supply to various industrial houses. It also provides a healthy chance to win the hearts of various industries by its technological advancement & remarkable design.

Solar Panel



Our solar panels are Highly Efficient as they convert Sunlight into Electricity solar without any significant loss. They have better cell to module conversion efficiency, the gap is optimized between module frame and solar cell to remove the shading.

Solar Power Pack 12V/10A



UTL Solar Power Pack is an integrated system consisting of Solar charge controller and Grid charger. For increasing the battery life, Solar Power Pack provides Smart Charging Technique (Bulk, Float and absorption). If battery voltage is charged to preset level, Solar Power Pack goes to cut-off mode and it disconnects the power from Solar or Mains.

Solar Charge Controller (High Rating)



The Solar charge controller based on rMPPT technology. The controller features a smart tracking algorithm that maximizes the energy harvest from the PV and also provides load control to prevent over-discharge of the battery. Extra power gathered from the modules is then made accessible as increased battery charge current. With rMPPT innovation the charge efficiency can be expanded by up to 30%, reducing the size of the array required and saving on installation costs.

ALFA Online Solar PCU



- Available in 5kVA to 10kVA.
- Upto 30 % more Efficient because of rMPPT Charge Controller.
- Advanced DSP based design, Pure Sine Wave.
- NSDL, Grid charging (Enable/Disable by LCD)
- USB based monitoring with 30 days data storage, DC and AC energy meter.
- User Configuration Parameters.
- Lightning, Surge Protection, Short Circuit Protection.
- Intelligent Charge Sharing.

SIGMA+ Grid Export Solar PCU



- Hybrid Solar PCU, Available in 1kVA to 15kVA.
- Upto 30 % more Efficient because of rMPPT Charge Controller.
- Advanced DSP based design, Pure Sine Wave.
- NSDL, Grid charging (Enable/Disable by LCD)
- USB based monitoring with 30 days data storage, DC and AC energy meter, On-Grid and Off-Grid System Compatible.
- User Configuration Parameters.
- Lightning, Surge Protection, Short Circuit Protection.
- Intelligent Charge Sharing.

1 Hykon Solar Water Heater Ceramica Series

MODEL	TUBES
CR-P-100	10
CR-P-160	16
CR-P-200	20
CR-P-260	26



- Ideal for Hard Water
- Hot water in 2 hrs
- ETC -3 layers 58 x 1800mm
- Non Corrosive
- polymer inner tank and ss outer tank
- Aluminum stand parts- noncorrossible

2 Hykon Street Light Solo Series

MODEL	LAMP	BATTERY	PANEL
Solo 15	15 W	25 Ah	32 W
Solo 30	30 W	60 Ah	50 W



- 3.2 V LifeP04 battery
- Lighting time: Full bright 4 hrs & Whole night
- Adjustable panel bracket
- Aluminum body
- Auto ON according to day light
- Warranty 3 years

3 Hykon Online UPS Green Series

MODEL	DC	CAPACITY
G-1000	12V	3PC+1DMP
G-2000	24V	6PC+1DMP
G-3000	48V	9PC+1DMP
G-5000	72V	16PC+1DMP



- Ideal for computers and mixed loads
- optional solar charging
- pure sine wave output
- Application: offices schools, computer labs etc.
- Warranty: 1 year



Three Phase Inverter

Key Benefits:

- / Independent operation of each unit enables easy serviceability for high system uptime
- / Connection to the SolarEdge monitoring platform via Ethernet or wireless communications, including optional built-in Cellular Plug-in
- / No wasted ground area: wall/rail mounted, or horizontally mounted under the modules (10° inclination)
- / Designed for tough working environments
- / Includes a built-in RS485 surge protection device plug-in, designed to protect the RS485 transceiver from electrical surges
- / Integrated DC safety unit with DC safety switch and optional surge protection & DC fuses, eliminating the need for external DC isolators
- / Built-in double RS485 plug-ins



Single Phase INVERTER

Key Benefits:

- / Specifically designed to work with SolarEdge power optimizers
- / 2.2kW to 6kW inverter range
- / 99% weighted efficiency (33%-50% less losses than the market standard)
- / Small, lightweight, and easy to install
- / Up to 155% oversizing allowed
- / High reliability due to lower heat dissipation
- / Advanced safety features, including integrated arc fault protection
- / Quick and easy inverter commissioning directly from your smartphone using the SolarEdge SetApp
- / Standard 12-year warranty (extendable to 20 or 25 years)
- / Built-in module-level monitoring
- / Internet communication via Ethernet or wireless connectivity (using optional Wi-Fi, ZigBee® or cellular plug-ins)
- / Manages PV production, battery storage, and smart energy products
- / IP65 – suitable for outdoor and indoor installations



Power optimizer

Key Benefits:

- / up to 25% more energy
- / Superior efficiency(99.5%)
- / Balance of system cost reduction; 50% less cables, fuses and combiner boxes, over 2x longer string length possible.
- / Fast installation with a single bolt
- / Next generation maintenance with module-level monitoring
- / module-level voltage shutdown for installer and firefighter safety
- / Use with two pv modules connected in series

SOON THEY ARE COMING OUT WITH HYBRID AND OFF-GRID SOLAR SYSTEMS WITH LITHIUM-ION BATTERY (COMPLETELY MAINTENANCE FREE)

DC/DC converters, MDC series 12-24V



	Power [W]	Battery voltage Unom [V]	Output voltage [Vac]	Output current [A]	Isolated
MDC 1224-7	170	9-18 Vdc	24	7	Non
MDC 2412-5	65	18-35 Vdc	13.2 Vdc	5.5	Non
MDC 2412-8	105	18-35 Vdc	13.2 Vdc	8	Non
MDC 2412-12	160	20-35 Vdc	13.8 Vdc	12	Non
MDC 2412-20	275	20-35 Vdc	13.8 Vdc	20	Non
MDC 2412-30	415	20-35 Vdc	13.8 Vdc	30	Non

Compact Series

Compact



C 1600-12
C 2600-24
C 4000-48

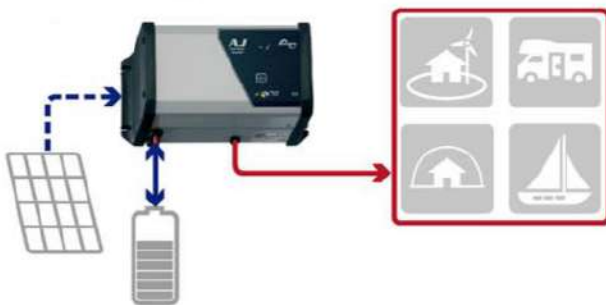
XP Compact



XPC+ 1400-12
XPC+ 2200-24
XPC+ 2200-48

	Power P30 / Pnom [VA]	Battery voltage Unom [V]	Charging current Imax [A]	Solar regulator current (opt.) Imax [A]
XPC + 1400-12	1400/1100	12	45	30
XPC + 2200-24	2200/1600	24	37	30
XPC + 2200-48	2200/1600	48	20	20
C 1600-12	1600/1300	12	55	30
C 2600-24	2600/2300	24	55	30
C 4000-48	4000/3500	48	48	20

Complete SHS with optional built-in solar charge controller



- High and steady efficiency
- Outstanding overload capabilities
- Digital regulation and control by microprocessor
- Electrical supply to any type of appliance
- Full internal protection
- Stand-by level adjustable from a very low threshold
- Battery lifetime optimization (B.L.O.) function
- 5-year warranty

VarioTrack series



	Recommended PV power [W]	Battery voltage Unom [V]	PV voltage U [V]	Max charge current Imax [A]
VT-65	1000 (12V) 2000 (24V) 4000 (48V)	12 / 24 / 48	80 (12V) / 150 (24-48V)	65
VT-80	1250 (12V) 2500 (24V) 5000 (48V)	12 / 24 / 48	80 (12V) / 150 (24-48V)	80



Havells Grid Tie Inverter

- 7 years warranty.
- Single and Dual MPPT for optimum generation.
- Wide Input Voltage Range.
- Maximum 98.2% Inverter Efficiency.
- In-Built 25 Year Data Storage Capability.
- Remote Monitoring – free for 25 years.
- 10.16 cm (4") LCD display.
- Detachable cover for easy installation and maintenance.
- Safety Protection- Anti Islanding, Ground Fault monitoring.
- Anti-Reverse Power Controller – zero export (Optional).
- IEC Certification – As per MNRE.



**Havells Enviro Li-Fe
Solar Street Lights**

- Available in 7/12/15/20/24/30 watt.
- High efficiency MPPT charge controller.
- Lumen efficacy of more than 120 Lumen per Watt.
- High Quality Polycrystalline silicon solar panels with high efficiency and long life.
- High efficient maintenance free Lithium Ferro Phosphate batteries.
- The battery is fixed on the pole top which make battery as theft Retardant.
- Compact system and easy to transport.
- Option of Bluetooth controlled System Health Scanner and Programmable Dimming Control



Havells Enviro Solar Home PCU

- Available in 12V/24V, 850VA/1100VA/1500VA.
- Power backup of up to 4 hours.
- Optimum use of solar power even when electricity is available.
- Save up to ₹4,500 per year in comparison to conventional home inverters.
- Pure Sine Wave Technology to enhance reliability and life of your home appliances.



**Havells Enviro Solar
Off-Grid PCU**

- KW (Solar) = kW (Load) – Load capacity same as SPV module capacity (no losses)
- MPPT Solar Charge Controller for efficient charging.
- Wide Range MPPT Suitable for 60 & 72 Cell Solar PV Module
- Selectable Priority mode (Solar/Grid Priority mode) for uninterrupted power & savings on grid power.
- Pure Sine Wave Technology for longer life of all electrical Appliances.
- 3 Stage Charging (Bulk, absorption & float) to enhance battery life.
- Compatible charger to support Tubular Flooded Lead Acid/VRLA/ GEL Batteries.
- Automatic transfer of Load from Grid to Solar when battery full or Solar is available.
- LED indicator and LCD Display for monitoring system Parameters.



LED BAY LIGHTS

These AC driven LED bay lights produce powerful illumination and are power efficient replacement for halogen and MH lights



LED FLOOD LIGHTS

These AC driven LED FLOOD lights produce powerful illumination and are power efficient replacement for halogen and MH lights



LED TUBELIGHTS

LED tube light is an environment friendly semiconductor lighting which possesses a number of advantages over the conventional



SOLAR POWERPACK

Nessa also specializes in designing and installing solar power packs for industries, residential societies.



SOLAR LED STREET LIGHTS

Nessa solar driven LED streetlights produce powerful illumination and come with any easy installation without hassles of digging.



LED STREET LIGHTS

Nessa solar lights provide highest illumination along with uniformity. With over 70% power savings compared to traditional lights.



Garden Lighting



Li-Ion Based Street light



Street Light Application



Highmast Application



Corporate Application

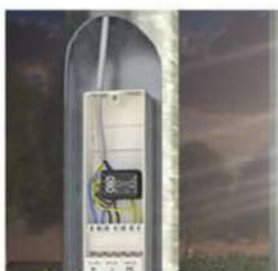


Industrial Application



**Surge Protection systems
Combination Controller**

- Available number of poles : 1 pole, 2 pole, 3 pole, 4 pole
- Available Versions : 1+NPE, ,2+NPE, ,3+NPE, ,1+NPE-FS, 2+NPE-FS, 3+NPE-FS,4
- Available voltages : 280V, 150V
- Types : V25, V50



SPD for LED system

- Weight : 4,500 Kg/100 pcs
- Type : USM-LED440
- Version : 1+NPE
- Highest Continuous Voltage : 440 V



**Surge Protection Device for
Tele-communication system**

- Weight : 14,000 Kg/100 pcs
- Type : RJ11-Tele 4-c
- Version : Combi protection, 4 wires
- Housing Material : Aluminium
- Cable Connection Size : 150 mm



Ats ESE Lightning Rod (Based On Ion Generator)

This unit provides the design engineer with an air termination relatively free of space charges, which is capable of creating ionization and which concentrate electric field to release free electron on the approach of a lightning leader. As a result, mostly only one lightning conductor is required against a large number of Conventional Lightning conductors This Advanced Lightning conductor is a dynamic device which has a very strong central ion generating system that is able to generate ions and requires no external source of power supply.

Advanced Lightning Counter

Lightning strike counter is used for recording number of times a lightning strike occurs from various kinds of lightning eliminators and lightning rod. It is kind of electro mechanical counter with digital display facility, lightning strikes provides valuable information for the maintenance and safety of all structures and its occupants.

Electrical Insulation Accessories

Accessories for electrical and cable insulations are included in the OBO products.



**India's 1st
Alkaline RO
Water Purifiers**
with led display system



Water Purifier

- Remove Physical and Chemical Impurities
- Reduce hardness of water
- Maintain the PH level
- Use the latest technologies



Antique

**World's 1st Naturally cool Alkaline RO
Water Purifier with Terracotta Technology**

- Steel Protection
- Safety Assured
- Storage
- Healthy Water



Steel Guard

**India's 1st Stainless steel storage Alkaline Ro
Water Purifier With Terracotta Technology**

- Always Antioxidant
- Naturally Alkaline
- Self Cooling
- Healthy Water



Touch Free Hand Sanitiser

Type	Automatic
Color	Multi-Color
Capacity	10.5 LTR Storage
Body Material	Fiber
Installation Type	Wall Mounted
Usage/Application	Office



RENEWABLE SOLAR INVERTER (RSI) AND PUMPS



Designed to power Grundfos pumps, the intelligent IP66 off-grid Renewable Solar Inverter (RSI) greatly expands possibilities for solar energy water supply systems with substantially reduced lifecycle costs.

Benefits

- IP66 enclosure class means the RSI is weatherproof and allows outdoor installation.
- Advanced MPPT software which continuously optimizes the system with respect to temperature as well as the solar panel conditions.
- Quick setup Wizard with pre-defined parameters suits the Grundfos submersible MS motor.

Technical Data

- Power size: 2.2 kW to 37 kW
- Voltage range: DC or 3-phase AC
- Enclosure class: IP66
- Analog and digital input

AQPURE WATER TREATMENT



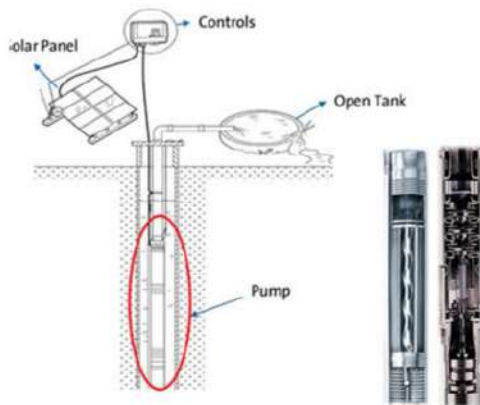
Modular and prefabricated water treatment system that produces drinking water quality by filtering bacteria, viruses and particles from raw source water, providing a reliable and affordable water supply for local communities, even in remote areas.

Benefits

- Prefabricated to simplify local installation and commissioning.
- Self-adaptive control to provide automated and stable operation to ensure long service intervals.
- Modular design approach to offer superior simplicity in sizing and selection process and to ensure attractive pricing.

Technical Data

- Water production: Up to 50 m³ /d
- Membrane type: Ultra filtration; hollow-fibre; dead-end
- Pore size in membrane: 0.03 µm



**SQFlex -Grundfos
Solar Submersible Pumps**

FEATURES

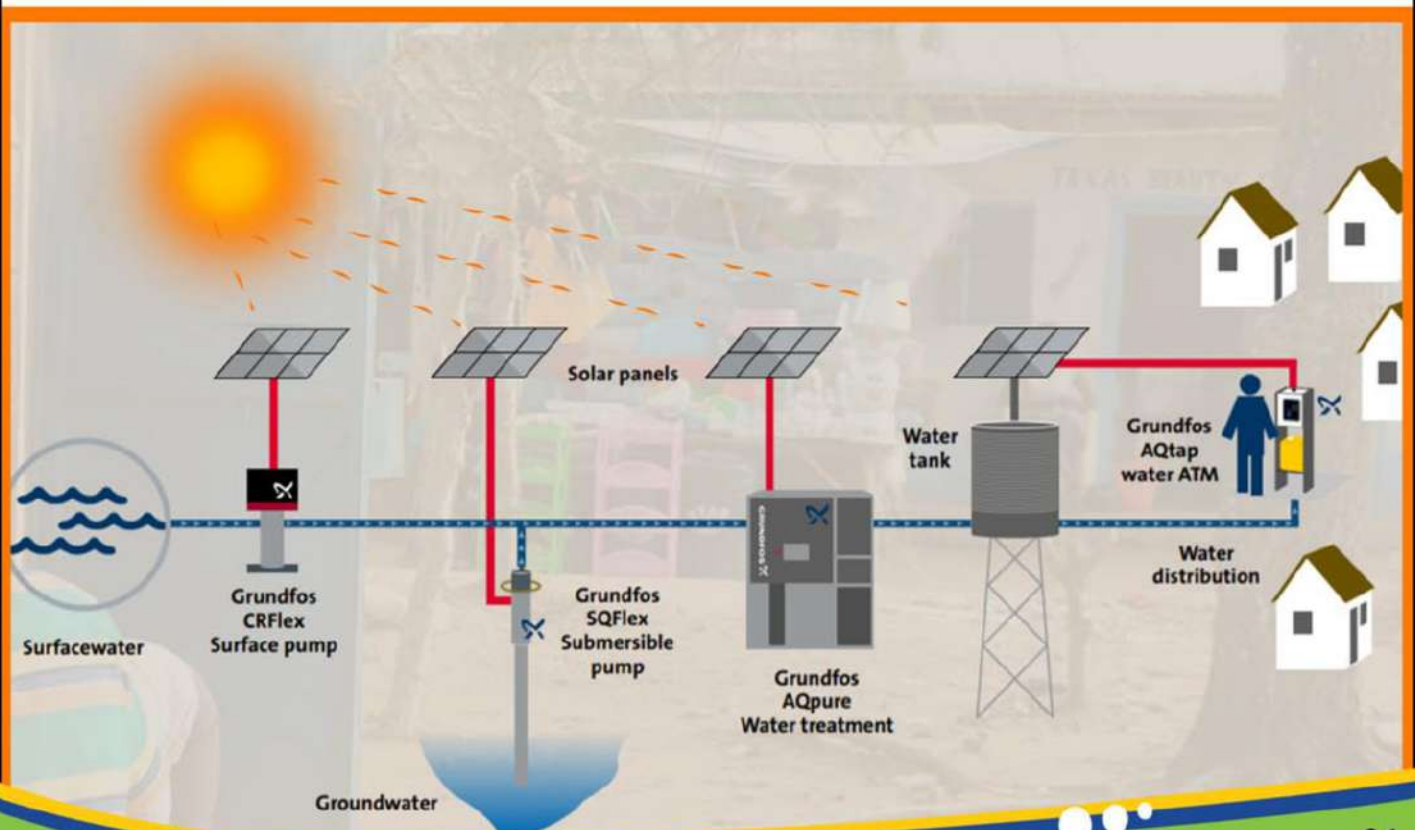
- Centrifugal or Helical version
- Compatible to Solar, Wind or Combi System
- Simple installation
- Reliable water supply
- Virtually no maintenance
- Expansion possibilities
- Cost-efficient pumping
- Dry-running protection.



**CRFlex- Grundfos
Solar Surface Pump**

FEATURES

- High efficiency Motor
- Compatible to Solar, Grid or Generator
- Maximum Power Point Tracking (MPPT)
- Built-in frequency inverter
- Built-in Motor protection
- Simple installation
- Virtually no maintenance
- Cost-efficient pumping



THE HEART OF YOUR BUILDING NOW HAS A BRAIN

ARMSTRONG FLUID TECHNOLOGY



Mechanical equipment, cloud-based analytics and digital controls perfectly integrated for reliability and efficiency that no other company can match.



Armstrong OPTI-VISOR

This product interfaces seamlessly with any existing building automation to maximise overall plant efficiency – without replacing or reconfiguring existing componentry. The OPTI-VISOR harmonises the interplay of existing componentry through leading-edge control algorithms for maximum plant performance.



Pump Manager

This product is a cloud-based subscription service that enables Active Performance Management™ in Armstrong intelligent Design Envelope pumps. It proactively tracks and manages pump performance and provides early diagnostic warnings, web accessible trends and analysis along with automated reports. Pump Manager helps customers make informed decisions and take immediate action to deliver the best possible HVAC performance.

SECURITY PRODUCTS



CCTV



SECURITY ALARM SYSTEMS



FIRE ALARM SYSTEMS



GATE AUTOMATION



VIDEO DOOR PHONE

HEALTH CARE PRODUCTS



IR THERMOMETER

- Non-contact Infrared Thermometer
- 32 to 42 Degree C
- Accurate reading
- Less time consumption



**PORTABLE UVC
DISINFECTION LAMP**

- Remote control
- 15 sec delay safety
- Timer
- Human motion sensor
- Tube size 300mm
- Auto-off feature for safety



OXIMETERS

- Finger Tip Pulse Oximeter
- Provides blood oxygen (SpO2) value
- Pulse Rate (PR)
- Oxygen Probe



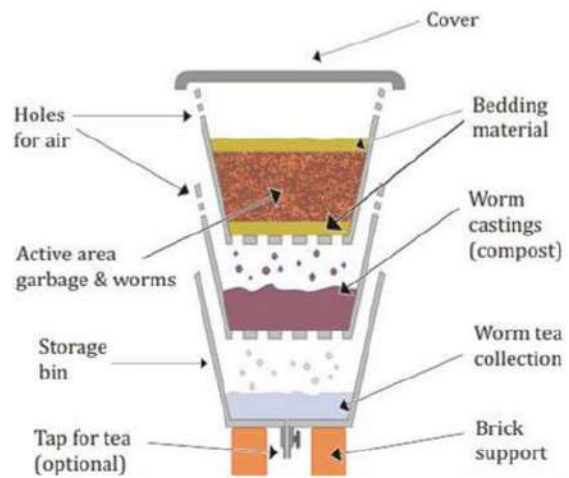
FACE MASK

- Protects from infected droplets
- Prevents droplet ejection from the wearer
- Protects from pollution

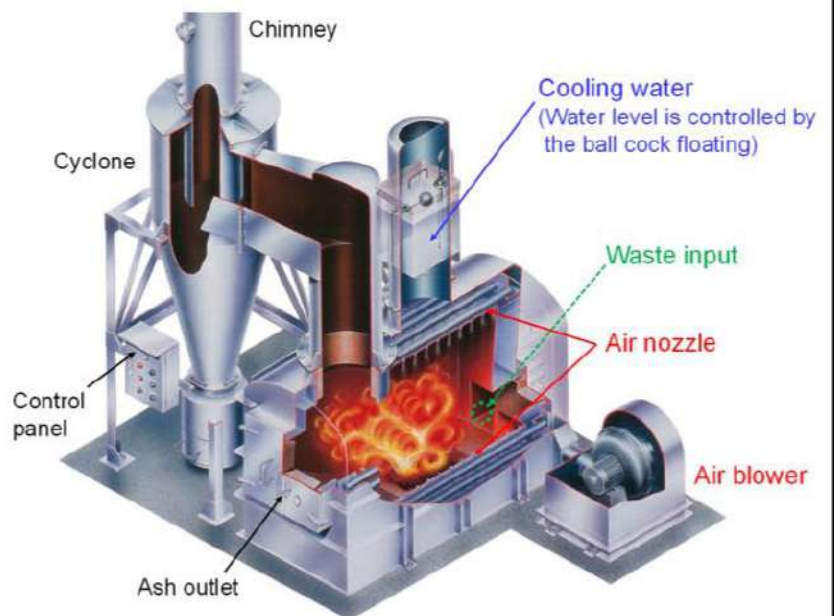
WASTE MANAGEMENT



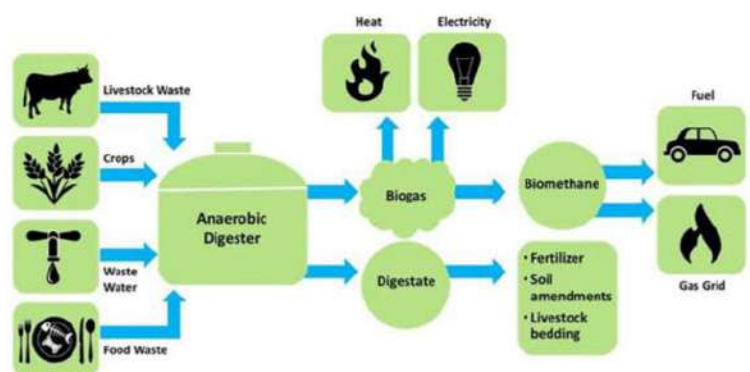
Composter



Incinerator



Biogas



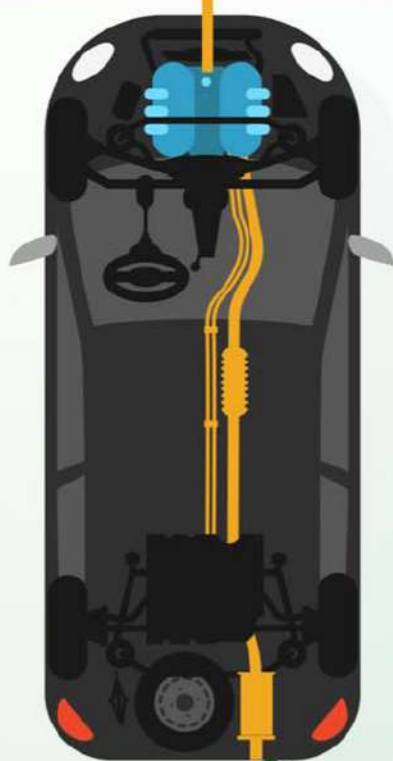
Enhance Energy Efficiency in Automobile Sector



Using the Best Globally Available Technology



20 min
CLEANING TIME



Decarbonize
your engine
without Dismantling.



Service
at your door step

Engine Carbon Cleaning is a new disruptive technology in the automobile sector. Decarbonization of engines is essential to prolong the life of the engine as well as maintaining the optimum working efficiency.

► The process

The process is scientifically done without dismantling the engine by an equipment which is hassle free and no messing up with chemicals. It is a simple and safe process.

► What to Expect after Decarbonization?

Better Pickup

Improved
Driving
Experience



20%

Reduce Fuel Consumption

by 15% to 20%

Reduces Harmful Emissions

by 70% to 80%

80%



Lower Engine Temperature

Increased
Engine Life

Decreased Engine Noise and Vibrations

Quieter Engine



10%

Revitalize engine performance

by 10%

If India is to reap the full social and economic benefits of increased mobility, the country must find effective ways to address the negative consequences of rising transportation activity and the consequent degradation of the air quality.

Shamar Sustainable Solutions Pvt. Ltd. aims at being a leader in energy efficiency and sustainability and we are extending our expertise to the realm of automobile sector. We are providing Engine Carbon Cleaning services at a cheaper rate without dismantling the engine.

ELECTRIC MOBILITY

ELECTRIC SCOOTERS AND BIKES



ELECTRIC CARS



EV CHARGING SOLUTION



CASE STUDIES

CASE STUDY 1: ROOF TOP SOLAR POWER PLANT (IN BANK BRANCHES)

Stage I: Analysis of Electricity Bill/ Walk-in Energy Audit

Electricity Summary:

Total average monthly electricity bill = **Rs.45,000 to Rs.50,000.**

Average monthly energy consumption = **4500 to 5000 units (KWh)**

Stage II: Facility Description/Observation

- Bank normally operates 23 to 25 days in a month, on an average.
- It generally operates during daytime when there is good sunshine.
- It rarely operates in the night.
- But, the continuity and reliability of supply in a bank branch is very critical.
- For ATMs and other computer appliances UPS is widely used.

Stage III: Deductions

- Average daily consumption during working days = **160 units (kWh)**
- To get 160 units/ KWh from solar installation, we should install **40 kW peak** capacity Solar PV Systems.
- To get the best on-grid solar PV plant installed on the bank roof, it will cost around **Rs. 18 Lakhs to Rs.19 Lakhs** (for instance, Solar Edge inverter and optimizer system).
- It saves **Rs 5 Lakhs to 6 Lakhs annually**. So, the payback period would be **less than 4 years** in a very conservative estimate.

RECOMMENDATIONS

Most of the commercial institutions, educational institutions and government offices work similar to the case mentioned above. So, it is definitely cost-effective to have a roof top Solar PV Power Plant for such clients.

CASE STUDIES

NOTE:

- In this case study, after the payback period of 4 years, the next 21 years the electricity is almost free for the client.
- Moreover, annual electricity price escalation is not considered in this case study, whereas in actual cases electricity price escalates every year. This means the actual payback period is much lesser.
- Moreover, the clients would have a general satisfaction for reducing a few tonnes of CO₂ from polluting the atmosphere. Globally, it helps mitigating the impact of global warming.

CASE STUDY 2: OFF-GRID SOLAR PV SYSTEM

- Suitable for areas with frequent interruption of power or areas with high risk of long period power loss due to natural disasters.
- Off-Grid solar system is the ideal choice to generate electricity for 24*7 basis.
- In such cases, the real value cannot be assessed based on payback period alone.
- The availability of uninterrupted power and its convenience should also be considered.

CASE STUDY 3: SOLAR LIGHTS

- With availability of Lithium Ion Phosphate batteries, installation of solar lights will enhance the **security level** of the ATMs, banks, shops and even houses.

CASE STUDY 4: SOLA WATER HEATER

- Solar water heater will definitely add the comfort level of occupants without additional electricity consumption in an eco-friendly manner.

CASE STUDY 5: SOLAR DRYERS

- Appropriately designed solar dryers could enhance the processing of fruits for increasing their shelf life.
- Protects from bird/insect attacks.
- Eliminates damages by avoiding direct exposure to sun.
- Increases profitability of farmers.

OUR RECENT WORKS



OUR MAJOR CUSTOMERS

- FEDERAL BANK
- PARUMALA CHURCH & SEMINARY
- THIRUVALLA MEDICAL MISSION HOSPITAL
- KURUSHUPALLY, KOTTAYAM
- UNION BANK CHERUKOLE, MAVELIKARA
- SANJIVANI HOSPITAL, KOLLAKADAVU
- ST. JOHNS ORTHODOX CHURCH, PATHICHIRA
- KAVAI, HARIPAD
- MANGANAM MEDICAL MISSION
- VIPASANA MEDITATION CENTRE, CHERIYANAD
- ST. THOMAS ENGINEERING COLLEGE, KOZHUVALLOOR
- IRENE HOMES, PUTHENKURISHU



CUSTOMER TESTIMONIALS

Shamar Sustainable Solutions has supplied Roof Top Solar Plant of capacity 17.5KW to my residence to meet my domestic load as well as a few dozens of energy efficient fans. Their execution of contracts as well as the services of the products is excellent. In case of service demands, their technicians are available to attend the problem on 24*7 basis.

Sasitharan Pillai
Chairman
Sanjivani Multispecialty Hospital, Cheruvallor

I experienced a substantial reduction in my electricity bills from Rs. 7000 to Rs. 2000. Thanks to the efforts of Shamar Sustainable Solutions Pvt. Ltd.

Mr. Mathews I. P.
Cherukole

Shamar Sustainable Solutions kept me informed throughout the installation procedure and they were very professional in all aspects of their work. The system is working to my satisfaction. I'm extremely happy with all aspects of their service. Above all my electricity bill is less than Rs. 1000.

Mr. K. V. Samuel
Cheriyana

Now, I have already replaced my existing normal fans with BLDC fans. Moreover, we are planning to replace our normal inverter with solar inverter. My target is to reduce the current electricity of Rs. 9000 to Rs. 3000.

Mr. A. O. Oomen
Kollam

Ten Actions toward Low Carbon Society

Action 1

Urban Transport

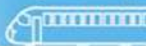


Action 1 Urban Transport

Hierarchically Connected
Compact Cities

Action 2

Interregional Transport



Action 2 Interregional Transport

Mainstreaming Rail and Water in
Interregional Transport

Action 3

Resource & Materials



Action 3 Resource & Materials

Smart Ways to Use Materials that
Realise the Full Potential of Resources

Action 4

Buildings



Action 4 Buildings

Energy-Saving Spaces Utilising
Sunlight and Wind

Action 5

Biomass energy



Action 5 Biomass energy

Local Production and
Local Consumption of Biomass

Action 6

Energy System



Action 6 Energy System

Low Carbon Energy System
Using Local Resources

Action 7

Agriculture & Livestock



Action 7 Agriculture & Livestock

Low Emission Agricultural
Technologies

Action 8

Land use & Forestry



Action 8 Land use & Forestry

Sustainable Forestry
Management

Action 9

Technology & Finance



Action 9 Technology & Finance

Technology and Finance to
Facilitate Achievement of LCS

Action 10

Governance



Action 10 Governance

Transparent and Fair Governance
That Supports Low Carbon Asia

“ These goals are known as the world’s blue print to achieve a better and more sustainable future for all”.



- Yearly, 36.5 billion tonnes of carbon are emitted worldwide (411 ppm) today.
- It was 280 ppm at pre-industrial level (1850).
- The damage will be irreversible if the average global temperature rises beyond 2 °C from pre-industrial level.
- The Paris Agreement sets out a global framework to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C.
- To limit global temperature rise at 1.5 °C, 45% of current carbon emission levels must be reduced by 2030 and should be Carbon Neutral by 2050.
- However, at current carbon emission levels, it is estimated that the global temperature will rise 1.5 °C by 2040 and 3 °C by 2100!!
- So, we should act collectively and proactively to decarbonize all sectors of the present economy.

SHAMAR FAMILY



We are an accredited energy auditing firm in Kerala (EMC-Energy Management Center).

We are an ISO 9001:2015 Standard Company.

We are also Enphase Gold class Installation partner (Micro-Inverter System).


We are an authorized dealer of Havells (Solar Plants).

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Alappuzha District , Kerala, India-690104
E-mail : info@shamar.in**

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GSTIN : 32AAVCS4488A1Z4
MSME : UDYAM-KL-01-0001538**

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Branch: Cherukole
IFSC Code: UBIN0903914
Account no: 510101003508301**

 Shammar Sustainable Solutions Pvt. Ltd.

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