

# RENEWABLE ENERGY FOR OIL AND GAS



# KLEEV USA



INTEGRATED  
PV SYSTEMS



PANELS



INVERTERS



STRUCTURES



SOLAR TRACKER



ENERGY  
STORAGE



BALANCE  
OF SYSTEM

# KLEEV – CONTRIBUTION TO RENEWABLE ENERGY

KLEEV is stepping ahead in renewable energy, contributing to the society and environment by mitigating the carbon foot print. Fossil fuels are becoming increasingly more expensive as they are gradually depleted. Every solar power system we install decrease the amount of fossil fuels needed to generate electricity, which in turn reduces the pollutants contributing to global warming.

We are an ISO 9001:2015, ISO 45001:2018 & ISO 14001:2015 approved corporate entity based in state of North Carolina, USA since 2014. The corporation was established with the sole objective to design and supply high quality renewable energy products.



## OUR VISION

KLEEV plans to become a premier provider of solar energy products and solutions that will contribute to a significant decrease of the world's dependence on fossil fuels.

KLEEV is dedicated to renewable energy and as an independent integrator we can aggressively strive to achieve our vision.



## OUR MISSION

Our mission is to be recognized as the top Photovoltaic brand and preferred partner in the solar energy industry.

To utilize practical and innovative techniques in providing a source of affordable, inexhaustible clean energy for all world citizens.

# SOLAR EPC SERVICES

## DESIGN

- Cost Estimation
- Architectural Design
- Project Feasibility Studies
- Technology

## ENGINEERING

- Front-end Engineering
- Planning & Scheduling
- Safety Planning
- System Integrator

## PROCUREMENT

- Contracts Management
- Raw material purchase
- Vendor sourcing
- Quality Controls
- Storage Controls

## COMMISSIONING

- Trail Runs
- Quality Checks
- Safety Protocols
- Certifications

## OPERATION & MAINTENANCE

- Preventive Maintenance
- Performance management
- Facility Management
- Plant Maintenance




## SOLUTIONS

- Off-Grid Solar Power System for Oil & Gas
- Solar - Diesel Hybrid System
- Containerized Solar Solutions
- Solar Car Parking System
- Portable Solar power System
- Solar Street Lighting System
- Solar Water Pumping System



# OIL & GAS – OFF-GRID SOLAR POWER SYSTEM

Our Off - grid Solar Power Solutions for Oil and Gas industry are cost effective and reliable system. Our proven solar systems have the capability to be deployed by some of the largest Oil and Gas companies like ADNOC, ADCO, GASCO, KOC, OXY .....etc.

Solar Power System for Oil and Gas Industry, Specialist in Ex-Proof  approved solar integrator.

## OUTPUT VOLTAGE OPTIONS

- 12V DC / 24V DC / 48V DC / 230V AC / 410V AC

## BATTERY CAPACITY CAPABILITIES

- Upto 5, 7, 10 Day's Autonomy



# OIL AND GAS APPLICATIONS

- Well Head Control Panel
- Control Valve
- Chemical Injection System
- Cathodic Protection
- Video surveillance
- RTU/SCADA
- Gas Flow Measurement
- Mineral Exploration Camps
- CCTV Cameras
- Off-Grid solar power system
- Flow Metering System



From design to com  
End to end custo



Solar PV Module



Battery



Battery Enclosures



Mounting Structures



Specialist in Off-Grid

# Commissioning Optimized solar solutions



Control Panel Enclosure

Distribution enclosures



Solar Cables & Inter  
Connection Cables



Inverter

Charge Controller



## System for Oil & Gas

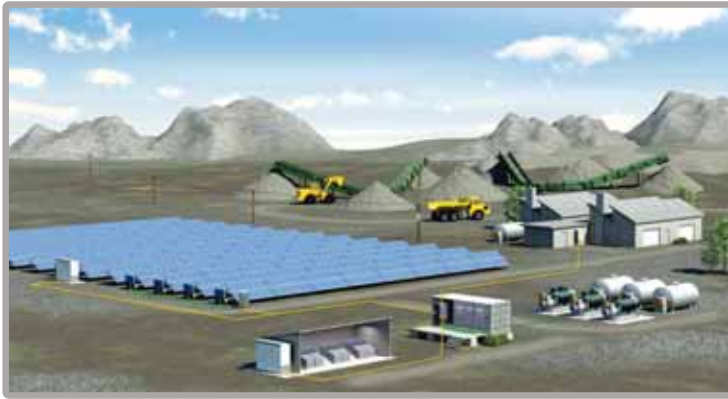


# SOLAR - DIESEL HYBRID SYSTEM

# SOLAR CAR PARK

Solar hybrid systems are power systems that combine solar power from a photovoltaic system with another energy source. One of the most common hybrid systems being PV diesel hybrid system. coupling PV and diesel generators.

Solar car parking solution is an intelligent alternative to rooftop or ground mounted Solar Power plants. We KLEEV provides a perfect end to end solution for solar roof top parking with highly tested materials.



## GRID CONNECTED SOLAR POWER SYSTEM

### BE AN INDEPENDENT POWER PRODUCER

Solar energy is present everywhere in abundance, and is more than enough to illuminate the whole earth. We at KLEEV assess your energy requirement, design the system components and integrate the whole components to generate the optimum output.

### BENEFITS

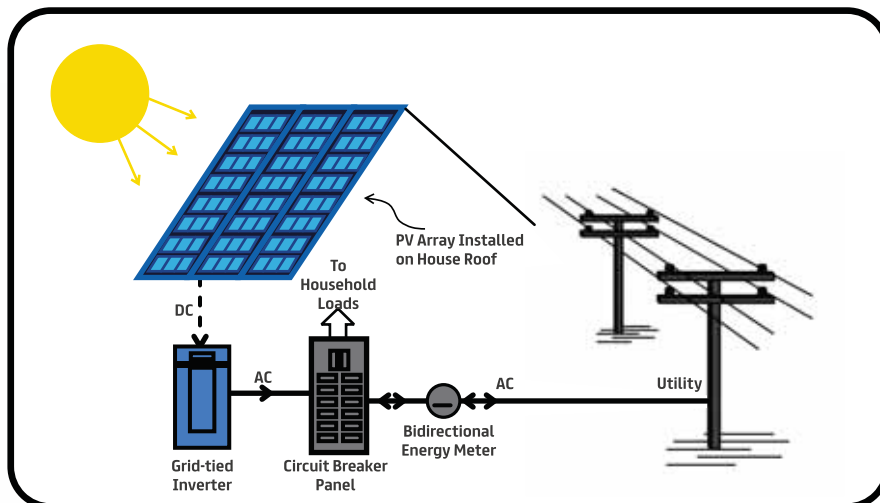
- Utilization of available vacant roof / ground space.
- Lower transmission and distribution losses
- Long term energy and ecological security by reduction in carbon emission.



ROOFTOP SYSTEM



GROUND MOUNTED SYSTEM





Solar Street Lighting is an ideal lighting system for illumination the streets, squares and cross roads located in areas that does not have access to the power grid



## ALL - IN - ONE LED SOLAR LIGHT

An integrated all-in-one solar street light combines the green energy parts of solar panel, LED lamp and Lithium battery in to single product.

### FEATURES

- Lower Operation Cost
- Compact Design
- Improved safety
- Faster Installation



## SOLAR MOON LIGHTS

### FEATURES

- Simple Operation
- Modular design
- Six working modes
- Micro-controller based sensor system
- Longer lifetime with Lithium batteries.
- Work continuously for 2-3 rainy days
- IP65 Protection.



MODEL	KL-ML-6	KL-ML-9	KL-ML-12
Lamp Power	6W	9W	12W
Solar Panel	12W / 5V	25W / 5V	40W / 5V
Lithium Battery	10AH / 3.2V	20AH / 3.2V	30AH / 3.2V

### APPLICATIONS

Widely used in Park, Villa, Village, Square, Courtyard, Farm, School, Desert, Prairie, Path, etc.. The places where need outdoor lighting and with enough sunshine.

# SOLAR MODULES



## LINEAR POWER OUTPUT WARRANTY



**25  
YEARS**

## MONO CRYSTALLINE / POLY CRYSTALLINE SOLAR MODULES

36 / 60 / 72 Cells  
MONOCRYSTALLINE

Efficiency up to  
**19.07%**

100 – 370 Wp Range

KLEEV focuses on maintaining the highest quality standards while offering best in class products to the consumers. In order to keep pace with the increasing demands in the market, we have ensured that we are equipped with the right machinery, technology and manpower.

### WIDE RANGE

Kleev solar modules are ideal for a wide range of applications. from home to industry roofs and ground mounted systems. Compatibility with industry standard mounting systems.

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## APPLICATIONS

- On-Grid large scale utility systems
- On-Grid residential roof top and commercial systems
- Off-Grid residential systems
- Off-Grid Oil & Gas systems.



IEC 60068,  
IEC 61215,  
IEC 61730  
IEC 61701

## ELECTRICAL PARAMETERS

Peak Power Pmax (Wp)	100	150	250	280	330	340	350	360	370
Maximum Voltage Vmpp (V)	18.2	18.83	31.44	32.4	39.16	39.46	39.75	39.5	39.4
Maximum Current Impp (A)	5.49	7.97	7.96	8.65	8.43	8.62	8.81	9.12	9.4
Open Circuit Voltage Voc (V)	22.4	22.7	37.92	38.4	46.29	46.36	46.51	48	48
Short Circuit Current Isc (A)	5.85	8.39	8.37	9.09	8.86	9.06	9.26	9.51	9.85
Module Efficiency %	15.06	15.19	15.3	17.14	16.99	17.51	18.02	18.5	19.07

# BATTERY BOX & ENCLOSURES

## STAINLESS STEEL ENCLOSURE

Material	SS 316, SS 316L, SS 304 or MS
Mounting plate	Galvanised, SS 316, SS 316L, SS 304 or MS
Locks	Die-cast Zinc, Nickel-chrome plated with SS cam, Multipoint Locks are also provided (optional)
Thickness	From 1.2 mm to 3mm, Door thickness vary as per sizes.
Surface Finish	Mat or Mirror Finished
Protection	IP 66 to EN 60 529, IK 10



KMX SERIES

## EX-PROOF BATTERY BOX

### FEATURES

- Can house any type of Batteries or Lead Acid battery from all recognized battery manufacturers
- Fully customizable
- Suitable for hazardous sites



## SOLAR MODULE MOUNTING STRUCTURES

### PRODUCT PORTFOLIO

- Ground Mounted module mounting structure
- Roof Top module mounting structures
- Customized Solar Module structures

### HOT DIP GALVANIZING

- Modern galvanizing plant
- Zinc coating up to 120 microns thickness.
- Pre-treatment of steel using special chemicals

### STRUCTURAL DESIGN

- Structures can be designed to withstand wind speed up to 150 km/hr.
- Detailed structural calculation can be provided.





# SOLAR CHARGE CONTROLLERS

The Charge controller is the heart of every solar system, and is required to monitor and control the power going into and coming out of the battery. It must also manage the power generated by the solar panel to ensure it does not overcharge the battery. The charge controller must also ensure that the connected loads don't over discharge the battery, there by damaging it.

## PWM CONTROLLER

### FEATURES

- 12 / 24V Auto, 48V Battery Selection
- LCD Display
- Selectable Operating Mode Of Load
- Solar & Load Current Parameter Display
- Intelligent PWM Charge Mode
- Automatic Temperature Compensation
- Adjustable Charge- Discharge Control Parameters
- USB Charging (optional)



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## PRODUCT DETAILS

TYPE	PWM	MPPT
Rated Current	10 A / 20 A / 30 A	20 A
System Voltage	12 / 24 V Auto	12 / 24 V Auto
Solar Panel	< 50 V	< 70 V
Low voltage Disconnect	10.7 V / 21.4 V	
Low Voltage Reconnect	12.6 V / 25.2 V	
Operating Temperature	-20°C to 50 °C	

## MPPT CONTROLLER

### FEATURES

- Microprocessor based advanced MPPT design
- Adjustable charging voltage
- 4 stage battery charging
- Reverse polarity protection
- Battery over voltage protection
- Automatic temperature compensation



# SOLAR BATTERIES

KLEEV is one of the largest battery manufacturers in USA. KLEEV batteries are specially designed for optimum performance, very long life, high reliability, low self-discharge and quick charging ability. Batteries are rated according to their voltage, ampere hours (AH) of storage and their ability to deliver the stored energy over a given period of time as C rating i.e C5, C10, C20, C100.



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## APPLICATIONS

- Solar Energy / Wind Energy
- Online UPS
- Alarm System
- Communication Equipment
- Emergency power system
- Security system

## PRODUCT RANGE

MODEL NO	VOLTAGE PER UNIT	CELL PER UNIT	CAPACITY @ C10 RATE TO 1.8V PER CELL @ 25°C	DIMENSION (L X W X H) MM	WEIGHT (KG)
KL1240	12 V	6	40 Ah	198 x 166 x 171	13.0
KL1265	12 V	6	65 Ah	350 x 167 x 183	21.0
KL1270	12 V	6	70 Ah	350 x 167 x 183	22.5
KL12100	12 V	6	100 Ah	328 x 172 x 222	30.0
KL12150	12 V	6	150 Ah	483 x 170 x 240	44.5
KL12200	12 V	6	200 Ah	522 x 240 x 223	60.0

## FEATURES

- Low self discharge rate: 3% month
- Good high rate discharge performance
- Wide operation temperature range : -20~50°C
- Structure : Compact design, shorter internal connectors between cells
- Vent system : Gases can be vented through flame arrester/filter
- Terminal sealing : Double sealing technique (mechanical + epoxy glue).

# PROJECTS EXECUTED



12kw Solar off grid System – Petronash  
End-User: Repsol – Bolivia - USA



Client: Delta Controls  
Location: OMAN  
System: Solar power Systems.



Client: BAPETCO  
Location: Egypt  
System: Solar Powered Air receiver systems.







Client: WT Petrotech USA, INC.  
Location: Abu Dhabi, UAE  
System: Solar power Systems.



Enduser: Kuwait Oil Company  
Location: Kuwait  
System: 4.6kwp solar off - grid system



أرامكو السعودية  
saudi aramco



**Enppi**

**REPSOL**

# PROJECTS EXECUTED



Occidental Petroleum Corporation  
شركة أوكسيدنتال للبترول

Enduser: OXY  
Location: Oman  
System: Solar off - grid system



Client: Pearl Petroleum  
Location: IRAQ  
System: WELLHEAD CONTROL PANEL SKID PROJECT



Client: Halliburton, ADNOC  
Location: Abu Dhabi, UAE  
System: Solar power Systems.



**HALLIBURTON**

proserv

**LEWA**  
Creating Fluid Solutions



Client: PROSERV  
Location: Malaysia  
System: Solar Power Systems.



7.2kw Solar off grid System – PEG – 21 Sets  
End-User: Rumaila Operating Organisation - Iraq





# PROJECTS EXECUTED



**4KW Off-Grid Solar Power System for RTU(6 Days Autonomy), Emerson, Basra Oil Company, Iraq**



**Yokogawa Solar Power System 2kWp- for RTU SNOC, Sharjah**



**End-user: LEWA MIDDLE EAST Location: Sharjah, UAE**



**System: 0.**

**Honeywell**



**YOK**



Omifco - 59 kwp on-grid roof top solar power system  
Location: SUR Sultanate of Oman



End user: Engardio  
Location: Dubai  
System: Solar off - grid system



End user: Dubai Municipality  
Location: Dubai  
5kwp, Solar off - grid system



شركة نواة للطاقة  
Nawah Energy Company



Enduser: Nawah Energy Company  
Location: Barakah nuclear power plant, Abu Dhabi.  
System: 2.4kwp solar off - grid system

KOGAWA





# KLEEV USA

## HEAD OFFICE

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## FACTORY & PLANT

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