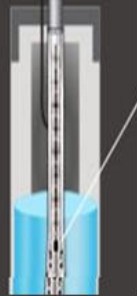




## OFF-GRID SOLAR PUMPING SYSTEM



# SOLAR WATER PUMP PROJECT



SUBMERSIBLE PUMP



**Project** : PV Project  
**Date** : 03.01.2020  
**To** : SUDAN- AL-Basheri - PUMP PROJECT IN SOLAR  
**Subject** : EPC Quotation

Dear Sirs:

would like to express our great honor and appreciation Sudan next-gen for the opportunity extended to us in proposing supplying and installing a solar water pump the proposed system 6.5 Hr Direct out let water From the well

EPC services in all business activities for the Solar submersible Pump

Solar PV solutions very competitive engineering and financial costs. With the other is very excellent

We welcome the opportunity to discuss the project further and provide further details if needed.

Best Regard

Regards,

**Azhari Musa**

**Jeddah Area Office**

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*Think Green. Reduce your impact on the environment, please think before you print this e-mail.*

# Project Summary

This proposal provides a scope of work, Engineering Procurement and Construction,.

project is tow main items –solar water pump with all accessories and water tank

## Construction Period

30 days



- Mounting Aluminum system
- Modules ( solar panels )
- Solar Inverter
- Cables and accessory
- Water Tank

### Pump Scope

- DC Pump for well 35Mtr Deep
- Aluminum strictures
- Panel
- Water Tank
- Tank accessory
- commission for seven consecutive days

### Commissioning & Testing Scope

Test A Panel Array

Test B solar pump system

Test C water tank

## Total Installed Power

Panels 270W Polycrystalline 8 PCs

Type of Installation	Description	Capacity
EPC PROJECT	Solar system off grid pumping system	1.5 HR

# Commercial Offer Summary

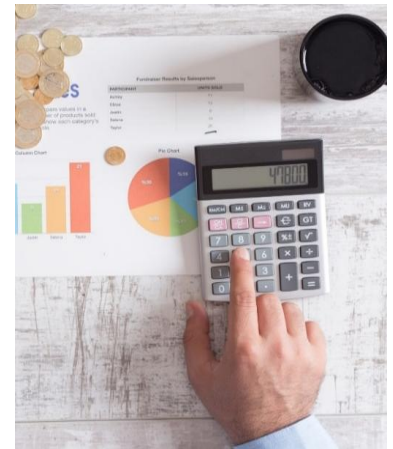
We estimate the total cost of this project to be as follows

## Supply and Installation Turn key

### Project

Cost per MGW	850.000	USD
<b>Total</b>	<b>4.450</b>	<b>USD</b>

USD



## General Project Assumption and Execlution.

- VAT and other taxes are not Included .
  - This assumptions are considering **the minimum of 6.5 sun hours exposure.**
  - Site Security will be the responsibility of Sudan Government
  - **Design is permanent cannot be modified.**
  - Other available modification can be discuss in an advance discussion.
  - Prices are based on USD
  - Offer Validity : one month
- Design is assumption - responsibility beginning after signing the Memorandum of Understanding if we agreed

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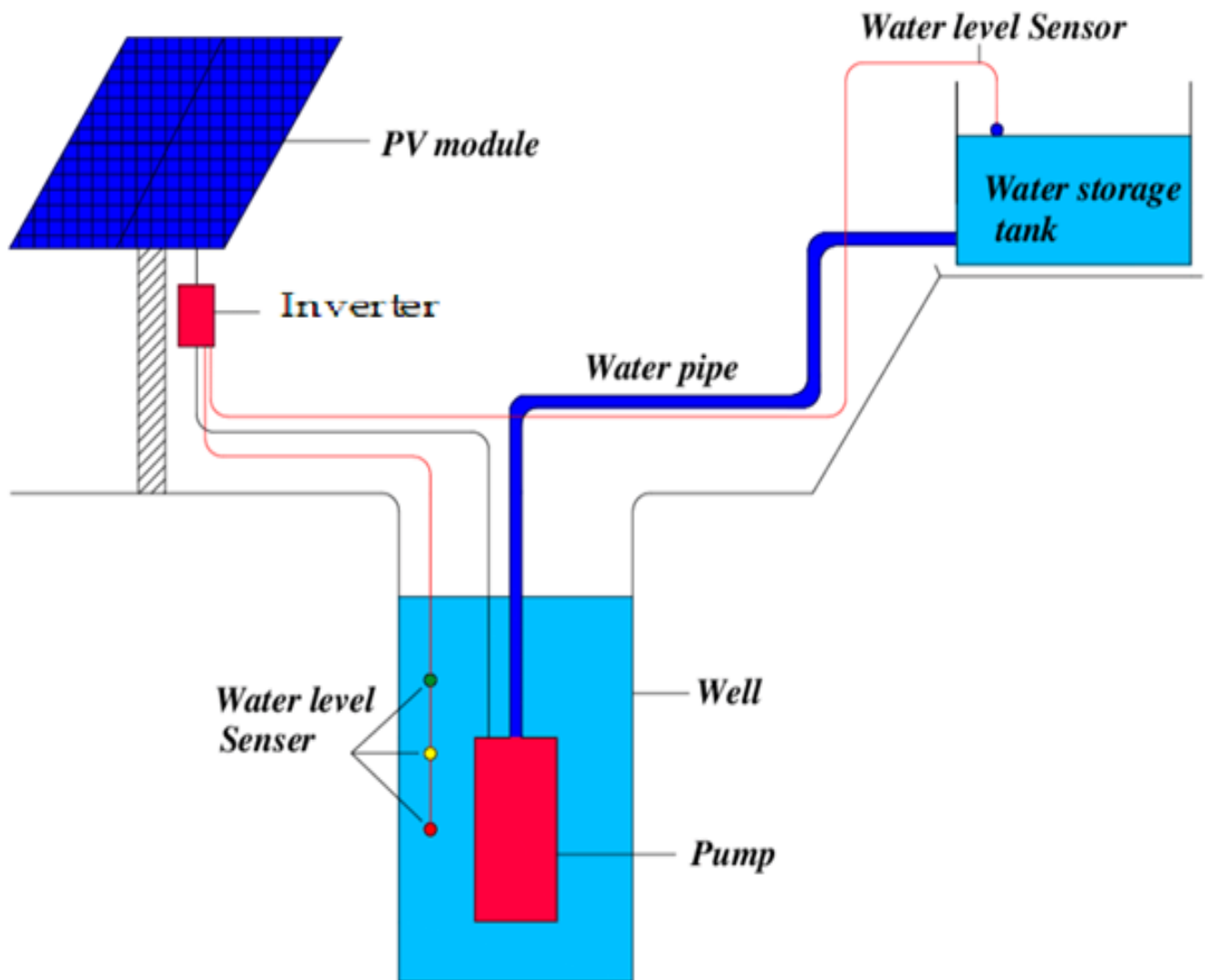
1. SYSTEM LAYOUTS

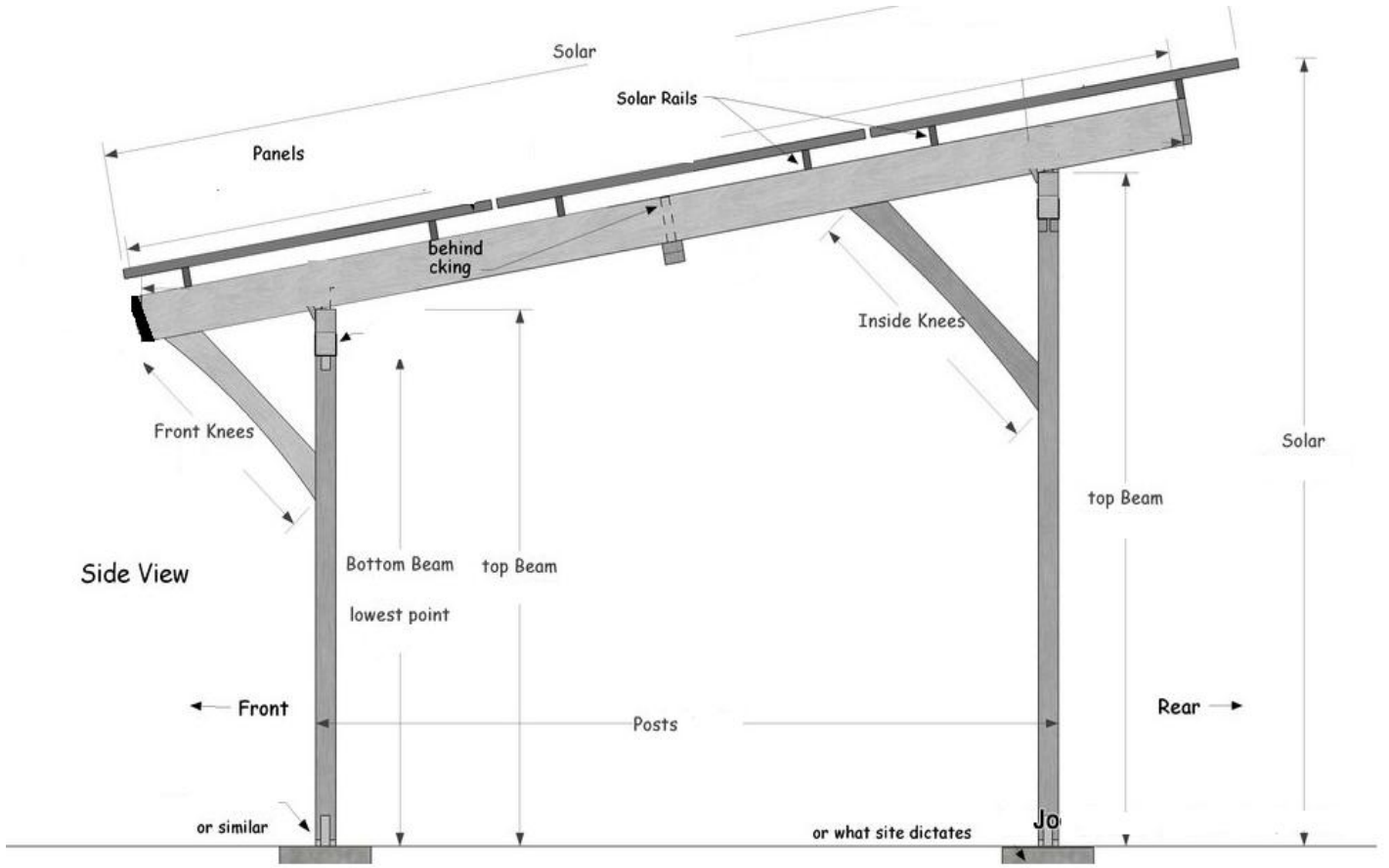
2. PROJECT TIMELINE

3. COMMERCIAL OFFER

# 1. SYSTEM LAYOUTS

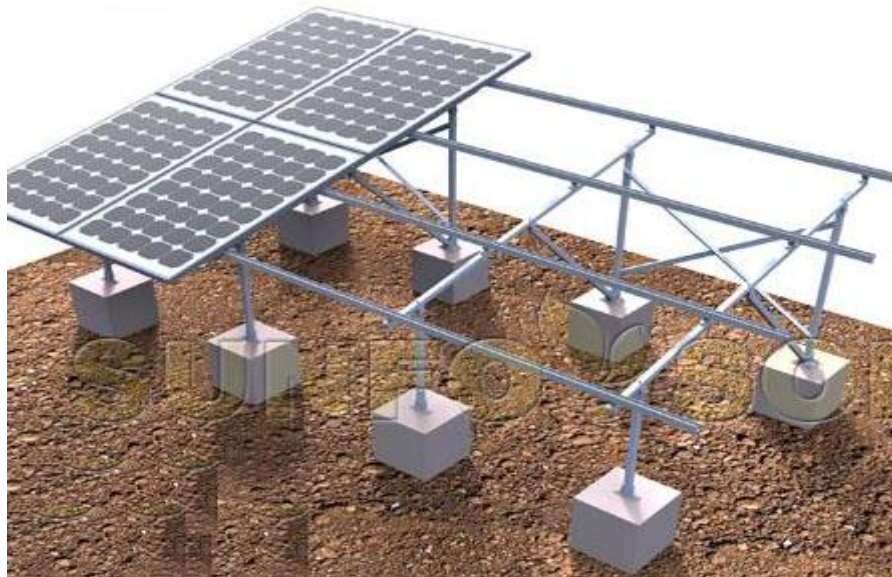
The below figures illustrated and layout  
1.1 Pump project







# Ground mounting solar panels



Color:	Silver
Length	4200mm
Solar panel orientation	Vertical or landscape
Solar panel type	framed or frameless solar panel
Warranty	10 years on material
Type	mounting aluminum solar rail
Install	Ground Mounting

# High Quality 1000L FRP Water Storage Tank



Figure 2 Water Tank

## Basic Info

Warranty	12 Months
Panel Size	0.5m*0.5m, 1*1m, 1*0.5m
Capacity	50Cubic Meters
Dimension	International Standard
Color	Customized
Working Time	20 Years
Application	Drinking Water
Product Name	50m3 Water Tank
Transport Package	In Plywood Case
Specification	as customer's requirement
Origin	China
HS Code	39269090

# SOLAR DC PUMP

Solar Pumping System Mode	Solar Pump Model	Recommended Solar Array Design			Water Head	Daily Water Supply	Outlet Dia.	Recommended MPP Voltage
		Solar Panel	Series Parallel	Power				
PSM1800C	SPM41800C076	270P/30V	4pcs×2strings	2160W	<b>34-16m</b>	<b>34-76m<sup>3</sup></b>	2"	120-160VDC



Figure 1 solar Pump

# PROJECT TIMELINE

ACTIVITY	DURATION
Procurement / Logistics	45 working days
Installation	4 working days
Testing & Commissioning	2 Days
Generation	Immediate

## COMMERCIAL OFFER

No	Description	Quantity	Price USD	Total Price USD
1-	Solar panel 270W	8	96.50	768.00
2-	Dc cable Black-Red	20Mtr	2.30	46.00
3-	MC4 connectors	16	1.90	30.40
4-	Numeric Book	1	4.00	4.00
5-	Solar submersible Pump 2"	1	553.00	553.00
6-	Solar pump Inverter	1	387.00	387.00
7-	Switch 40amp	1	23.00	23.00
8-	Pump Cable	50Mtr	3.70	185.00
9-	3M cable joint Kit	1	34.00	34.00
10-	Aluminum Par 4.20Cm	5	40.00	200.00
11-	Short front pile	6	8.00	42.00
12-	Long Rare pile	6	8.00	42.00
13-	Anchor Bolt	24	2.50	60.00
14-	U clamp	12	1.70	20.40
15-	Cement Basement	6	18.00	108.00
16-	Water tank 2*2*2.5 Met / 10 Q mtr	1	900.00	700.00
17-	Level switch	1	12.00	12.00
18-	Out let 2" valve	2	6.80	13.60
19-	Inlet 2" valve	2	7.80	21.60
20-	Transportation To Sudan and clearance	--	--	480.00
21-	Transportation To <b>AL-Bashire</b>	--	---	270.00
22-	Engineering and labor cost	--	---	450.00
				<b>4.450.00</b>
<b>Four Thousand Four Hundred Fifty USD</b>				

## 7- Payment Terms

<b>Payment-1</b>	80%	3.560.00	Upon contract signature
<b>Payment-2</b>	10%	445.00	Once supplied materials)
<b>Payment-5</b>	10%	445.00	Upon successful commissioning test for three consecutive days of the system
<b>TOTAL</b>	<b>4.450.00 USD</b>		
<b>Four Thousand Four Hundred USD</b>			

## **Modules prices are based on 2020**

### **1. System Specifications**

The proposed system under Expected price offer is for Off Grid system

### **2. System Components For Solar Pump water System**

<b>Solar Panel</b>	Polycrystalline solar photovoltaic panels are used to convert solar energy to electric power via the photoelectric effect. The solar system generates DC power.
<b>Inverter</b>	Solar inverters are used in the solar system to convert DC generated power with very high HZ and RPM
<b>Mounting structures</b>	The solar system will be installed on Flat ground aluminum structure and using aluminum bars that are selected based on site conditions.

### **3. Engineering Design**

System Layout & Electrical Design Package will be provides as complete electrical drawings and site layout plans

### **4. Procurement**

Photovoltaic panels from top suppliers always used to ensure the quality and reliability

Inverters: Inverters from same suppliers are always used to ensure optimum performance

- layout compatibility with array design, and

### **OPERATION & MAINTENANCE**

PV solutions allow for remote system

#### **SYSTEM WARRANTY**

- > Provides an overall system warranty for 3 years from commissioning date.
- > Will perform site visits on Order of any system
- > A Separate annual maintenance plan will be offered starting from second operational year of the plant. ( to be agree as per client request )

**Maintenance contract**

<b>Year</b>	<b>Preventative &amp; Corrective Maintenance contract</b>
<b>Year (2 to 5)</b>	<b>3% From the Contract's Value</b>
<b>Year (5-10)</b>	<b>4% From the Contract's Value</b>
<b>Year (10-20)</b>	<b>5% From the Contract's Value</b>
<b>Year (20- 25)</b>	<b>7% From the Contract's Value</b>