

**FRIDAY, APRIL 27, 2018****PROPOSAL FOR SOLAR WATER PUMPING SYSTEM**

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Location: 8.485800 South, 30.473931 East  
Water Requirements: 900 M<sup>3</sup> per hour, 8-10 hours a day  
Water Head: 25 Meter

## SOLAR SYSTEM TO RUN WATER PUMPS

In our Proposal to offer solar powered solution, we present two options to use solar power without battery to run submersible pumpsets directly on solar power during day time. In option 1, Proposed project can have only enough submersible pumps running during day time to fulfill for the day time requirements with only enough storage if required to store the water, when sun is not shining, for example during night time, Grid Power can be used. In option 2, we propose to add additional set of solar water pumping systems to pump out extra water which can be stored at a height in a storage tank, and re-used during night time.

**Option 1: Solar Water Pumping system only for day time requirements.**

Turnkey Supply of 40HP x 4 solar water pumping system to pump 900cu.m. per hour during the day time.

MODEL: QF - 360 (V10)

PUMP CODE	MOTOR		Pump OD	m <sup>3</sup> /Hr	150	190	210	230	240	280
	JOINING	RATING	240 mm	LPH	150000	190000	210000	230000	240000	280000
		HP / kW	Del Size 150 mm	LPM	2500	3167	3500	3833	400	4667
			Stage							
9000003524	MOTOR V6	20.0 / 15.0	1A	HEAD (M)	20	16	14	11	10	3
9000003513	MOTOR V6	25.0 / 18.5	1		27	24	23	21	19	11
9000010313	MOTOR V8	40.0 / 30.0	2AA		43	37	33	28	25	11
9000003530	MOTOR V8	50.0 / 37.0	2A		51	46	42	38	35	18
9000003526	MOTOR V8	60.0 / 45.0	2		59	54	50	46	44	29
9000003540	MOTOR V8	75.0 / 55.0	3A		83	75	70	63	59	37
9000003537	MOTOR V8	85.0 / 63.0	3		90	81	77	71	67	46
9000003546	MOTOR V8	100.0 / 75.0	4		119	108	102	93	88	62
9000003555	MOTOR V8	125.0 / 92.0	5		148	133	125	114	108	76

## Supply Scope:

- Site Survey and Design of The System
- 40KW x 4 Solar Modules sets,
- 30KW x 4 Solar water pumping controller with VFD drive, Switches and disconnects, along with facility to run the same pump on grid power.
- Mounting Structures, Cables,
- Installation at Site.
- Training on Operations and Preventive Maintenance.

## System Quote

Serial Number	System Description	Prices CIF, Zambia Port
1	160 KW Solar Modules, Axitec German Brand. OR any other Tier 1 Brand.	US \$ 58400/-
2	30KW X 4 Solar Controllers Delta/Gefran with control panel.	US \$19800/-
3	Galvanized Mounting Structures, AC/DC disconnects, Cables, Earthing sets, Lightning Arrestor sets, and other accessories.	US \$ 33600
4	4 x (V10, QF#360, 40.H.P. / 30KW) submersible pump sets which can pump 240Cu.m. per hour from 25m head.	US\$11440
5	Transportation and Installation cost.	US \$ 9900/-
<b>Total</b>	<b>One hundred and thirty-three thousands, one hundred and forty united states dollars only.</b>	<b>US \$ 133140</b>

Prices Includes: Freight and Insurance. Turnkey Supply and Installation of complete System.

Prices Excludes: Lodging and Boarding Of Installation team.

Export Duties from India: Nil

Import Duties in Zambia: Extra at Actual

Performance: upto 960 Cu.m. per hour under STC.

Power output: 50Hz, 415V, 3φ (3 phase)

Prices Per watt: **US\$ 0.82 per Watt** Approximately.

**Payment terms:** 75% Advance with Purchase Order, remaining 20% after materials reach to site. 5% after Installation and commissioning.

**Delivery terms:** System will be installed within 12-14 weeks of order, after payment confirmation.

**Commissioning Terms:** System will be said commissioned after due site and system checks post installation, if it is found operating as per design and performance requirements, for up to 7 days without any issues. System will be said to be owned and handed over to customer as soon as it reaches the project site.

## Option 2: Running Solar Water Pumping System during Day time and store extra water on a storage tank.

MODEL : SSP - 360 (V12)

PUMP CODE	MOTOR		Pump OD	m <sup>3</sup> /Hr	80	240	320	360	400	440
	JOINING	RATING	289 mm	LPH	80000	240000	320000	360000	400000	440000
		HP / kW	Del Size 175 mm Stage	LPM	1333	4000	5333	6000	6666	7333
9000010998	MOTOR V6	50 / 37	1L	HEAD (M)	38	30	26	23	20	15
9000010999	MOTOR V8	60 / 45	1F		45	35	31	28	25	21
9000011000	MOTOR V8	75 / 55	1A		48	38	35	33	30	26
9000011001	MOTOR V8	85 / 63	2N		70	56	47	42	36	28
9000010998	MOTOR V8	100 / 75	2L		76	60	54	49	43	34
9000011003	MOTOR V8	125 / 92	2F		90	70	63	59	54	47
9000011004	MOTOR V10	150 / 110	2A		98	78	72	68	64	57
9000011005	MOTOR V10	150 / 110	3L		115	91	82	75	66	53
9000011006	MOTOR V10	177 / 132	3G		126	100	88	82	74	63
9000011007	MOTOR V10	177 / 132	3F		135	106	96	70	82	72
9000011008	MOTOR V10	197 / 147	3D		140	113	103	97	89	79
9000011009	MOTOR V10	197 / 147	3A		147	118	109	104	97	87
9000011010	MOTOR V10	228 / 170	4G		167	133	118	110	99	85
9000011011	MOTOR V10	228 / 170	4F		180	141	128	120	110	96
9000011012	MOTOR V10	252 / 185	4D		186	150	137	130	120	107
9000011013	MOTOR V10	252 / 185	5G		208	166	147	137	123	106
9000011014	MOTOR V12	295 / 220	5F	225	177	161	151	139	122	
9000011015	MOTOR V12	335 / 250	5D	233	189	173	163	150	134	
9000011016	MOTOR V12	335 / 250	6F	270	212	193	182	166	147	

As above, project can be planned with 6 x (60HP OR 40KW) water pumping systems with roughly similar project prices around US \$ 0.82 per watt. This project will pump about 400X6=2400 Cu.m. per hour. Any water more than required can be stored at a height in a tank for the use during night time.

**Thank You For The Opportunity To Serve!**