

PPA
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POWER PURCHASE AGREEMENT

by and between

THE MINISTRY OF FINANCE AND ECONOMIC DEVELOPMENT

THE MINISTRY OF ENERGY

THE ELECTRICITY DISTRIBUTION AND SUPPLY AUTHORITY

and

PLANET SOLAR ENERGY (SL) LIMITED

relating to the

50 MW Solar Energy Generation

[25 MW in Makarie Gbanti Chiefdom, Bombali District and combined 25 MW in various location Kambia, Port Loko, Kabala, Kamakwi, Kono, Mile 91, Moyamba, Pujehun, Bo, Kailahun, Bonthe]

in

Sierra Leone

Dated as of 14th day of 08 2017

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**Appendix A
to
Power Purchase Agreement
by and between
the Offtaker and the Generator**

Plant Description, Design Conditions and Technical Data for the On –Grid Plant

1. Plant Description:

Site and Plant Information		
1.	Location Name	Municipality: Makraie Chiefdom District : Bombali
2.	Name of State	Sierra Leone
3.	Geographic Coordinates	Latitude:8.63 degree N Longitude :11.66 degree W
4.	Land Available	120 acres
5.	Distance to HV Substation	Line in Line Out (LILO)
6.	Proposed Capacity	32.5 MWp/ 25MW
7.	Solar PV Technology	Poly C-Si Technology
8.	Type of System	Fixed Tilt-8 degree
9.	Module Make	BNEF Tier – 1
10.	Inverter Make	Tier – 1
11.	Estimated Annual Energy	In the table below
12.	Nearest Railway Station	Makeni
13.	Nearest Airport	Free town, Sierra Leone Airport (220 Km)

Capacity(MV)	Energy Generation (MWh)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
18	3396	3218	3351	3098	3045	2664	2634	2533	2839	3080	3037	3290
7	1321	1251	1303	1205	1184	1036	1025	985	1104	1198	1181	1280

2. Design Conditions:

Electrical equipment shall be able to withstand the following environmental conditions during storage or operation, without damage or degradation of its operating characteristics, unless otherwise specified.

Site Conditions		
1.	Elevation above sea level	< 1000 meters
2.	Maximum Ambient Temp.	38°C
3.	Minimum ambient temperature	18°C
4.	Maximum Relative humidity	89%
5.	Minimum Relative Humidity	72%
6.	Average No. of rainy days	74 days
7.	Average Annual Rainfall	3140 mm



3. System Characteristics

Technical : System characteristics				
S.No.	Type of Data	Unit	SPV Plant HV System-161 kV	DC System
1	Nominal system voltage	kV rms	161 kV	1000/ 1500 V
2.	Maximum voltage at Norma operating condition	kV rms	169 kV	1000 / 1500 V
3.	Maximum voltage at extreme operating condition	kV rms	169 kV	1000/ 1500 V
4.	Minimum voltage at Norma operating condition	kV rms	153 kV	600 V
5	Phase	-	3	DC+/-ve
6	Power Frequency	Hz	50	-
7	Type of neutral grounding		E	E
11	Auxiliary AC voltage	Vac	415/220	-
12	Auxiliary DC voltage	Vdc	110/220	-

