

THE CHURCH SOLAR PROJECT

Building a bridge of light

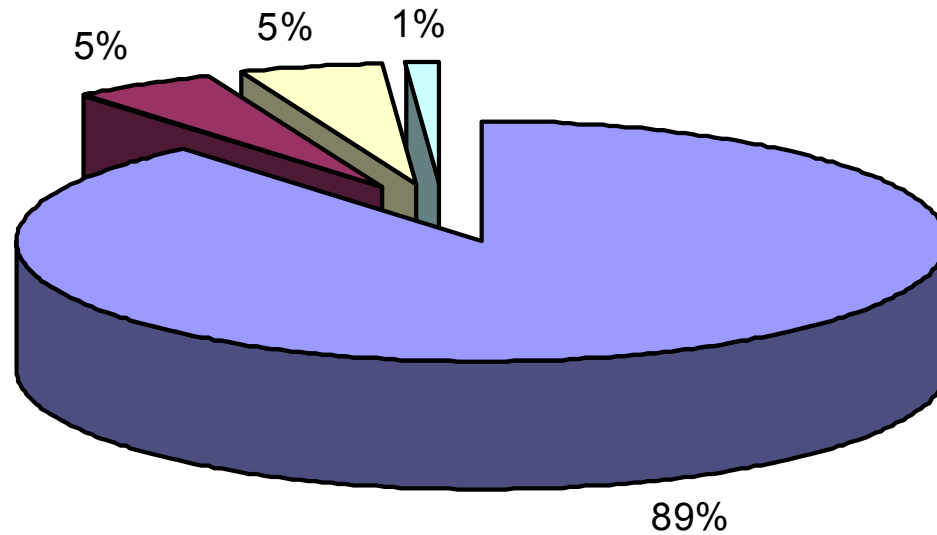
Access to electricity in the East African region

Country	Un-Electified HHs(million)	Rural	Grid size (MW)	Rural Electrification	Existing SHS PV Market (kWp/yr)
Kenya	3.5		1000	<2%	>500
Uganda	3.0		240	<1%	>100
Tanzania	2.2		350-400	<1%	<50
Ethiopia	6-7			<1%	<50
Eritrea	0.5			<3%	<50
TOTAL	15million HHS			<2%	<750 kWp

Potential PV market (cash) in Uganda

System Descrip	Avrg Size (W p)	Cost \$	% of Pop	No. HH	Size of Market (KWp)	Cash Value 1000's/\$
No. Systems	0	0	70.0	0	0	0
Lantern/one Light& radio	10	150	10.0	346100	3461	51915
2 Lights and Radio system	20	300	9.0	311490	6230	93447
4lights, Radio or TV	50	800	1.0	34610	1731	27688
6 Lights & Radio or TV	65	980	10.0	346100	6370	96040
			100.0	Subtotal	11421	173050

The Role of Solar Electricity in Uganda Rural Electrification



89%-Potential PV SHS market plus Mini grid
5% - potential Isolated generator sets
5% - potential Grid connected
1% - Existing Grid Connections

Household kerosene for lighting

Table 3: Fuel consumption for different sources

Light source	Rate of fuel consumption		Time of usage (hours a day)
	Grams per hour	Litres per year	
Tadooba	5.24	4.78	2
Small kerosene lamp	14.34	19.63	3
Standard kerosene lamp	18.36	33.51	4

Table 4: Typical household number of appliances and their kerosene consumption

	Rural		Urban		Total
	No.	Litres per year	No.	Litres per year	Average
Tadooba	1	4.78			
Small kerosene lamp	1	19.63	1	19.63	
Std. kerosene lamp	2	67.03	3	100.53	
Total	4	91.43	4	120.12	105.80

Outcomes of PV rural electrification

- 72,000 PV SHS by 2010
- Household kerosene use reduced by 28,629.4 tonnes over life of project.
- Carbon dioxide emissions reduce by 18,000 tonnes per annum when 72,000 systems in place.

Conclusions

- Intervention is still required to get thorough GHG emissions to fully define the project.
- This basic study refers to lighting alone and cooking and other sources of gas emissions are not tackled.
- Carbon credits are available to investors/project developers willing to resources to the programme (USAID).
- Reducing the cost of solar systems.