Rawlemon™ MicroTrack500HY

promoted by Sbotic ltd

Simulation of the "Six Cities High Rise" in Berlin (south face)

LOCATION	*SOLAR RADIATION PER DAY (Wh/m2)**	*ANNUAL SOLAR RADIATION (kWh/m2)*	*BETA.RAY SURFACE 50% eff. (m2)*	*SYSTEM RATED POWER (kW)*	***TOTAL ENERGY GENERATED PER YEAR (GWh)***	*CONVERTED TO MWh*	*CONVERTED TO kWh*	*TOTAL ENERGY OPERATED PER YEAR (GWh) ***	*ENERGY SURPLUS PER YEAR (GWh)*	***ELECTRICITY HOUSEHOLD $/kWh 2014***	*Feed-in Tariff Household $/kWh 2014*	*ANNUAL ENERGY OFF-GRID SAVINGS ($) 30 years*	***AVERAGE ANNUAL ENERGY REVENUE ($/5,1%) 30 years***	*CONSTRUCTION COST PER m2 BY CITY ($/m2)*	***TOTAL COST OF CONSTRUCTION BY CITY ($)***	*AVERAGE FINANCING COST OVER 30 YEARS ($/6%)*	***COST PER CELL 0F 30m2 ($) OF TOTAL 80 CELLS***	*COST PER m2 ($)*	*BREAK EVEN POINT IN % LOAN PER m2*	*CO2 EMISSION SAVINGS (Tons) vs. COAL*	*RETURN OF INVESTMENT (years)*
BERLIN	4.466	1.630	406	201	**0,33**	331	330.825	0,15	**0,18**	**0,33**	0,11	115.699	**255.175**	1.562	**7.872.480**	278.161	98.406	3.280	92%	319	31
BERLIN FIT***	4.466	1.630	406	201	**0,33**	331	330.825	0,15	**0,18**	0,33	**0,11**	42.537	**255.175**	1.562	**7.872.480**	278.161	98.406	3.280	92%	319	31
Perks (KS) - 5 years period full booked incl. energy profit															**3.161.603**				40%		
Perks (KS) - 5 years period full booked incl. energy profit FIT															2.411.089				31%		
Revenue of 20 units property after Kickstarter campaign															**2.460.150**				31%		
Sum - perks and property															**5.621.753**				71%		
Estimated funding goal 60% (rounded)															**4.700.000**				**60%**		

* source: http://re.jrc.ec.europa.eu/ - Solar irradiation: G 2-axis tracking

** source: Lemon Consult Zurich / total consumption / year: 30 kWh/m2

*** Feed-in Tariff (FIT) - basically subsidies/surcharge from government to promote renewables

Total consumption / year: 30 kWh/m2		30000	Wh/m2	
Floor surface of the building: 240m2 per level x 21 levels	:	5040	m2	
South oriented surface: 15,35m x 61,50m (Brutto 944m2) - Ball lens net area 43%		405,92	m2 (43%)	405,92
50% efficiency = 500W/m2 (measured by 1.5AMd, 1000W/m2, T= 25°)	:	0,5	kW/m2	
1 year	:	365	days	
1 Module: 20 Balls / 0,25m2 / 50% efficiency = 5,014m2		2507	W/Module rated power output	
80 Modules = 200560 W		200,56	System rated power /kWp	
Efficiency per m2:		0,215	kW/m2	

UNITS CONVERSION

1 Kilowatt	kW	1.000 W
1 Megawatt	MW	1.000.000 W
1 Gigawatt	GW	1.000.000.000 W
1 Terawatt	TW	1.000.000.000.000 W

ANNUAL ENERGY LOSSES by TILT and Reflection

horizontal	**25,00%**
optimized angle	**20,00%**
vertical	**60,00%**
dual axis tracking system	**0,00%**