

SEDA

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Association

Potential growth of SME's Solar energy market in Egypt

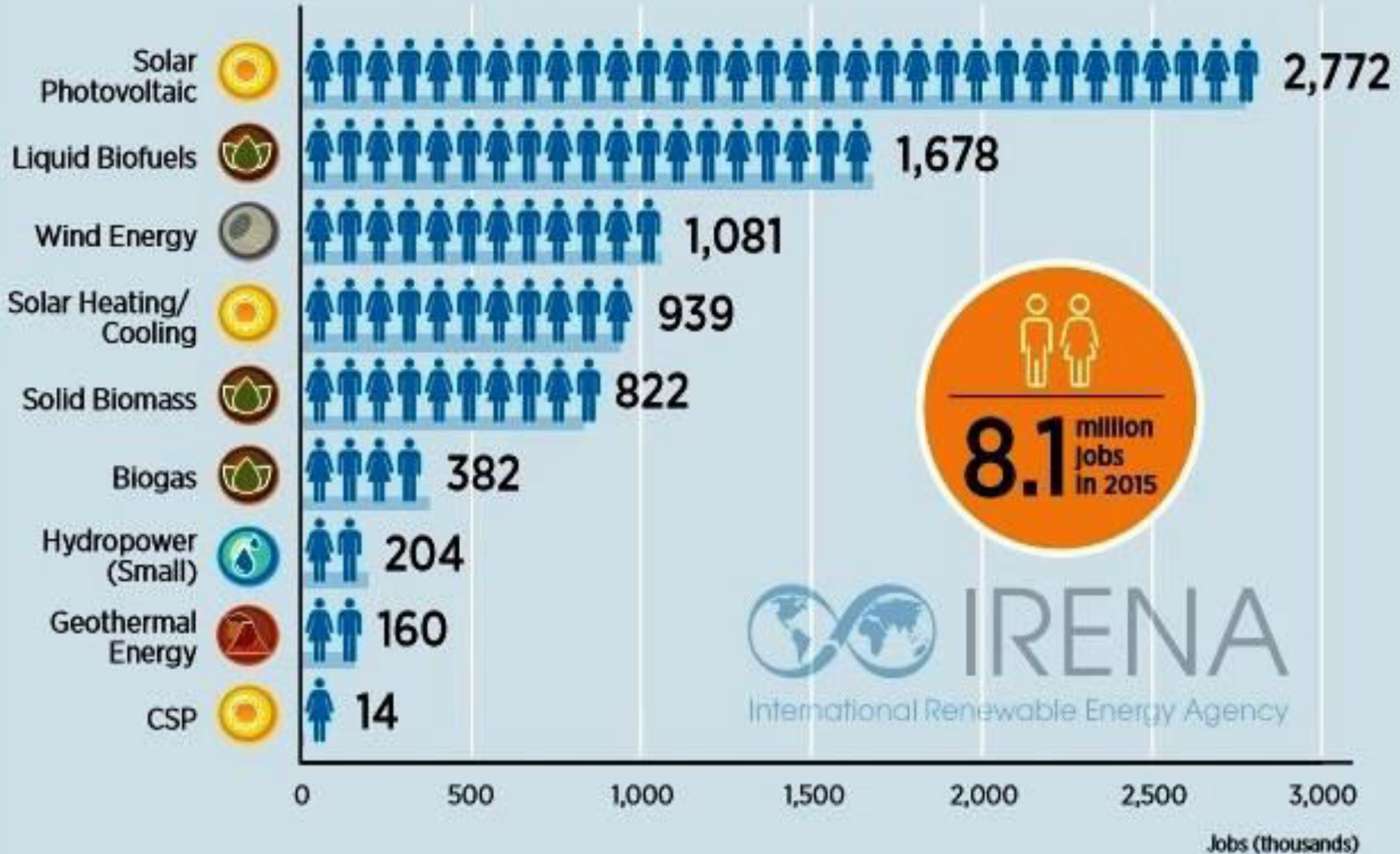
Global markets in solar energy



- Global RE Employment increased by 5% in 2015 to reach 8.1 million.
- PV is the largest RE employer (2.8 million) increased by 11 %
- Bangladesh work force in RE 127000 from stand alone system
- India work force 73000 from stand alone system
- Turkey has 90 Manufactures of SWH, 800 retailers and 3000 installer all provide 20 000 jobs

Source : IRENA report 2016

RE Employment by Technology



Estimated RE jobs by industry



	World								European Union ^l		
		China	Brazil	United States	India	Japan	Bangladesh	Germany	France	Rest of EU	
Solar Photovoltaic 	2.772	1.652	4	194	103	377	127	38	21	84	
Liquid Biofuels 	1.678	71	821 ^c	277 ^f	35	3		23	35	47	
Wind Power 	1.081	507	41	88	48	5	0.1	149	20	162	
Solar Heating/Cooling 	939	743	41 ^d	10	75	0.7		10	6	19	
Solid Biomass ^{a,g} 	822	241		152 ^e	58			49	48	214	
Biogas 	382	209			85		9	48	4	14	
Hydropower (Small) ^b 	204	100	12	8	12		5	12	4	31	
Geothermal energy ^a 	160			35		2		17	31	55	
CSP 	14			4				0.7		5	
Total	8,079^h	3.523	918	769	416	388	141	355ⁱ	170	644^k	



SME's Solar market in Egypt



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-
- A stylized illustration of a bright yellow sun with sharp rays rising over dark, rolling hills against a dark grey background. The sun is positioned in the upper right quadrant of the slide.
- Where SME's can invest in solar energy?
 - PV Roof top projects
 - Solar pumping
 - Solar thermal applications

PV roof top projects



Applications of roof tops



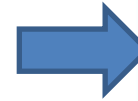
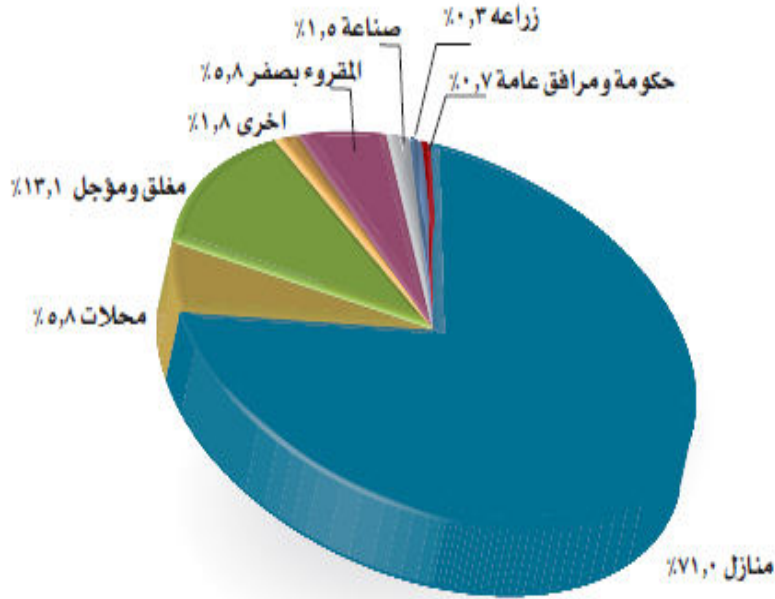
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- Thousands of building using electric lights during day time while sun is shinning.!!

Market Volume

عدد المشتركين طبقا للأغراض



عدد المشتركين	البيان
٤٤٦١٠٧	صناعة
٩٥٩٨٦	زراعة
٢٠٣٢٢٩	حكومة ومرافق عامة
٢١٠٨٧٢٦٣	منازل
١٧٠٩٠٦٧	محلات تجارية
٣٨٩٣٥٢٠	مفلق ومؤجل
٥٣٤٣٥٠	أخرى
١٧٣٠٨٨٥	المقروء بصفر
٢٩٧٠٠٤٠٧	الإجمالي

Market volume

Target	Installed power (kw)	No. of customer	Target % (السنة الاولى)	Customers	
1000,000	5	200000	Less than 1%	21087263	القطاع المنزلى
20,000	200	1,00	Less than 1%	1709067	القطاع التجارى
2000,000	100	20000	Less than 2%	446107	القطاع الصناعى
10,000	100	100	Less than 1%	534350	اخرى (فنادق - بنوك)
More than 3 G watt					

Potential of roof top projects

- To cover less than 1% of the residential demand and 2 % of the industrial demand we will need to install 3 Giga watt PV power stations.
- The Cost of 1 kWp = 1200 USD
- The expected investment volume more than 3 B USD

Job creation in roof top projects

- The international standard says that each one mega can produce 20 direct job chance and 7 indirect job chances.*
- Based in our lack of experience we can estimate each mega can produce 40 direct and indirect job chances.
- The job creation can be :
 $40 \times 3000 \text{ mega} = 120,000 \text{ jobs.}$

* European photo voltaic industry Association (fact sheet - job creation Sept 2012

Solar pumps



Applications of Solar energy in irrigations



Social impact!!



Potential of solar pumps

- The national project to cultivate 1 million Fadden depends on pumping the groundwater.
- Based on the existing experience one solar pump 50 HP can irrigate 5 Fadden.
- The cost for 1 Hp = 1200 USD
- The expected needed pumps = 200,000 pumps
- The expected investment more than 200 M USD

Solar thermal



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Potential of ST in residential



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- 7 million heaters are exist in the Egyptian houses just to heat water.
- The market volume is about 2 million SWH. (to replace existing heating systems)
- The potential investment is 2 million X 1000 \$ = 2B USD



Applications of ST in Industry



- Solar thermal can reduce independency on fossil fuel boiler

Potential of ST in industry



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- *Maximum contribution of low temperature solar thermal application to low temperature heat demand is 4.571.139 M wh.*
- *The total needed solar collector is 4.6 mil.m²*
- *Expected investment is 0.5 billion USD*

Source :

IFC report dated March 2014 , solar thermal market in Egypt ,Pakistan and Morocco

<https://youtu.be/SkRz5SyJy-g?t=2>

<https://www.youtube.com/watch?v=SkRz5SyJy-g&feature=youtu.be>



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