



SOLAR
ENERGY
VENTURE

ON GRID SOLAR ROOFTOP



Benefits of On Grid Solar Plant

Capex model: The entire investment comes from the power consuming company.

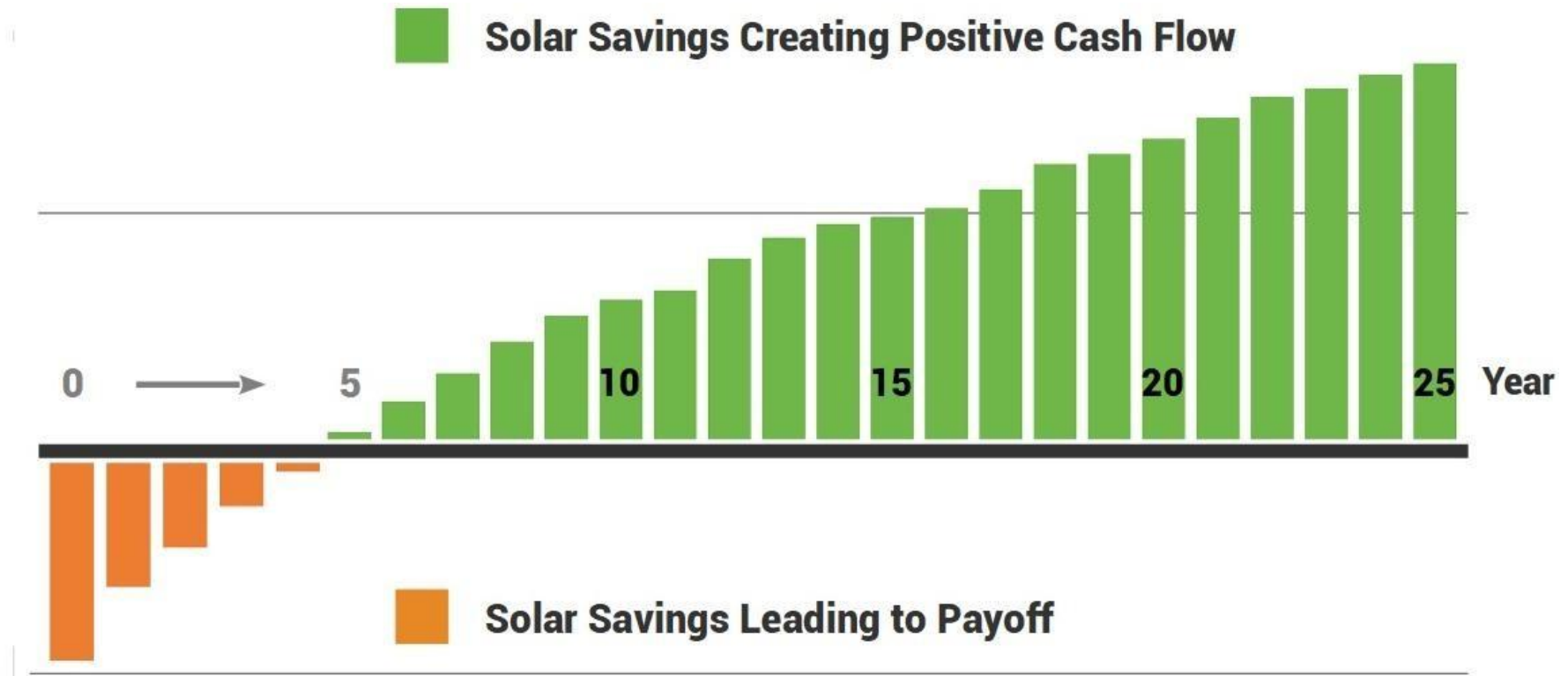
Benefits:

- Pay back period - **4 years.**
- KVA reduction – **Reduction in Demand Charges.**
- Income Tax benefit as **40% Accelerated Depreciation.**
- Compliant with Abbott India **CSR Policy** and **Abbott Global Climate Responsible Energy Policy .**
- Reduces building temperature; resulting in reduction of energy requirement.
- Plant is transferable at any point of its life.
- **Very low maintenance.**
- Performance warranty of solar panels - **25 years.**
- **Reduces carbon footprints.**

Generation and Payoff

- On grid Solar Plant generates 3.5 units to 6 units(kwh) of electricity per Kw of capacity daily depending on the location and weather conditions.
- With our experience in North East region average generation is **3.69 units(kwh)** of electricity per Kw of capacity daily, **1,350 units(kwh)** per annum.
- Being Variable rate per unit(kwh) of electricity is **Rs. 8.4** for above 50 kw load consumer and **Rs. 10** for less than 50 kw load consumer.
- Due to high demand and increase in solar plant capacity in India, cost of installing the solar plant has been decreased by **25 % in 2 years**.
- Solar plant having capacity of **100 Kw** can be installed at capital cost of **Rs.38,00,000.00(38,000 per kw)**.
- Solar plant having capacity of **100 Kw** can generate **1,35,000 units(kwh)** p.a. creating direct saving of **Rs.11,34,000 p.a.(taking 8.4 per unit cost)** i.e. **Rs.94,500 per month**.
- Solar plant having capacity of **24 Kw** can be installed at capital cost of **Rs.10,80,000.00(45,000 per kw)**.
- Solar plant having capacity of **24 Kw** can generate **32,400 units(kwh)** p.a. creating direct saving of **Rs.3,24,000 p.a.(taking 10 per unit cost)**, i.e. **Rs.27,000 per month**.
- Solar plant can easily payoff its cost including interest cost of 12% within **4 years**.

Payoff within 4 Years



Cumulative Positive Cash Flow – Many times original investment

60 Kw Solar plant analysis

		2016-17		CIPLA site	2018-19					
		WBSEDCL			WBSEDCL		60 kw SOLAR			
SR NO	MONTH	UNITS	BILL AMOUNT		MONTH	UNITS	BILL AMOUNT	UNITS gen.	Total Consumed Unit	Total amt
1	Apr-16	7,474	73,074		Apr-18	190	20,955	8,638	8,828	20,955
2	May-16	8,567	86,884		May-18	225	21,235	8,777	9,002	21,235
3	Jun-16	8,098	82,170		Jun-18	4,527	59,392	2,619	7,146	59,392
4	Jul-16	6,834	72,568		Jul-18	1,775	37,704	7,789	9,564	37,704
5	Aug-16	9,305	94,368		Aug-18	1,553	35,517	7,212	8,765	35,517
6	Sep-16	8,390	86,165		Sep-18	1,643	36,728	6,216	7,859	36,728
7	Oct-16	8,248	93,004		Oct-18	419	21,213	6,510	6,929	21,213
8	Nov-16	5,731	74,796		Nov-18	166	20,765	5,838	6,004	20,765
9	Dec-16	2,943	51,489		Dec-18	183	20,959	4,017	4,200	20,959
10	Jan-17	2,499	46,140		Jan-19	116	18,616	3,898	4,014	18,616
11	Feb-17	2,523	44,735		Feb-19	132	18,752	5,355	5,487	18,752
12	Mar-17	3,025	49,005		Mar-19	186	20,567	5,583	5,769	20,567
		73,637	8,54,398			11,115	3,32,404	72,452	83,567	3,32,404
							Rate per unit including fixed charges		11.60	
							Bill amt. as per 2018-19 83,567 units		9,69,614.16	
							Savings by 60 kw Solar plant in Cipla site		6,37,210.49	

Reduction in Demand Charges

- On Grid Solar plant acts as a source to grid.
- It not only reduces variable electricity charges but also Fixed charges.
- It helps in KVA reduction as partial load shall be provided by Solar plant in the Daytime from **30% to 40%** .
- Reduction in load will reduce the dependency on government grid.
- Government utility companies charges Rs.300 to 400 monthly per KVA as demand charges.
- So 100 Kw Solar plant can reduce demand by 30 KVA, indirectly saving demand charges by Rs.10,000 per month and 24 kw plant saving Rs. 2,400 per month.
- Helps to operate on **higher load capacity**

Income Tax Benefit

- On installation of Solar plant there is large tax relief due to availing high depreciation rate.
- The normal depreciation rate for plant and machinery is 15%.
- As per **section 32** of income tax act 1961, Solar plant is eligible to avail **40%** of depreciation.
- Extra depreciation of 25% on capital expenditure of Solar plant is a huge tax savings.

Corporate Social Responsibility

- As per Companies Act 2013, certain classes of profitable entities are required to contribute at least **2 %** of three year annual average net profit towards CSR activities.
- As per Schedule VII of Companies Act 2013, many activities has been categorized under CSR and one of them are “**ensuring environment sustainability**” which further includes projects like adoption of renewable energy like Solar.
- In case of Solar, the types of projects that can be undertakes to meet CSR are: **Solar for captive use**, Buy Solar power, providing solar lighting and pumping solutions to rural households.
- So by installing On grid Solar plant you can save in electricity bills and meet your CSR obligations.

Solar reduces heat trap in the premises

- Solar panels reduces the heat trap in the premises by absorbing the sunlight and keeping your roof cool.
- Solar panels don't just power your AC on blisteringly hot summer days – they also take over some of the AC's work themselves.
- It helps in reducing temperature **up to 4 degree** centigrade in the premises which reduces your cooling cost.



Generate Your
Own Electricity



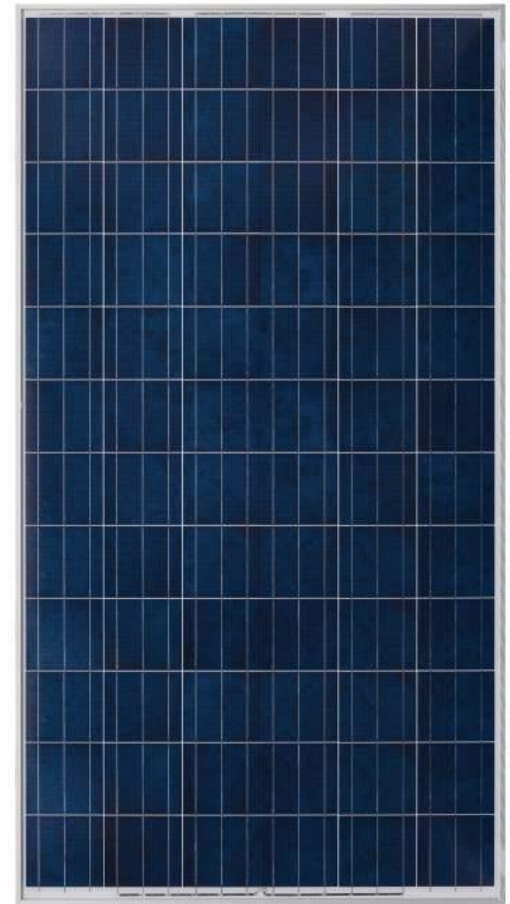
Installation

- Installation of On grid Solar plant is easy and can be installed on RCC as well as tin shade rooftops.
- Installation work of 100 Kw solar plant takes 20 to 30 days apart from net metering work with government utility companies.
- The capacity of the plant can be enhanced at any time.
- Solar plant can be transferred and reinstalled easily.
- The capital cost includes installation and net metering work.

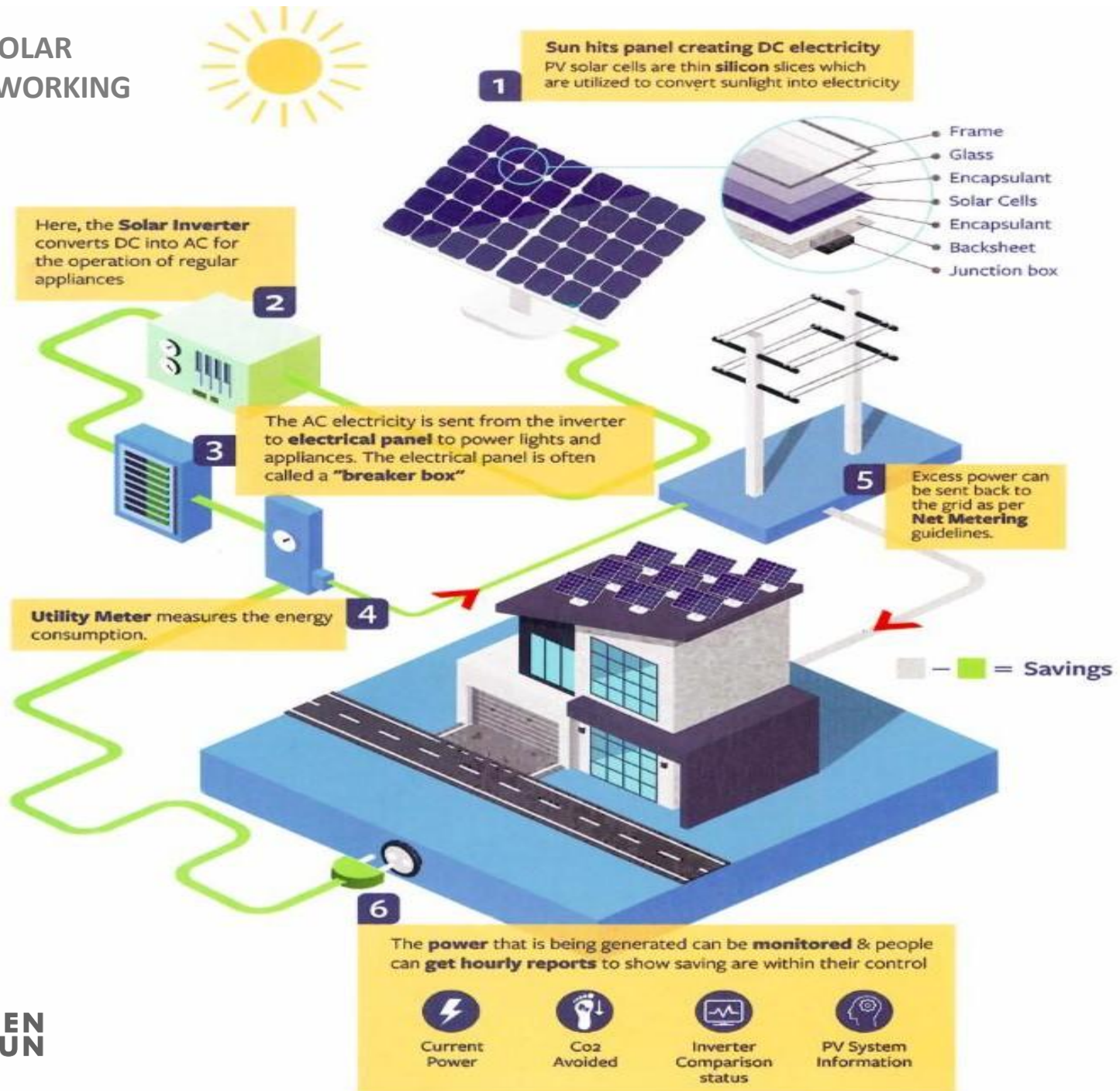


Lifespan of Solar panels

- In Solar panels based on **Polycrystalline Silicon Solar cells**, raw silicon is melted and poured into a square mold, which is cooled and cut into perfectly square wafers.
- Being Silicon a non- disposable material and **Aluminium** framing of panels increases its Lifespan.
- Comes with **25-27 years** linear performance warranty with approx. 1 % degradation per annum.
- Comes with product warranty of 10 years
- Optimum Operational temperature range of **-2 degree to + 44 degree** Centigrade.
- 72 cells and 5 bus bar per panel giving power capacity range of **310-330 wattage**.
- Panel size: **2*1 meter**, weight: **20 to 24 kg**.
- Certified for Salt mist corrosion and ammonia resistance.
- Comes with **3.2 mm** Iron tampered glass to secure cells from thunderstorms.

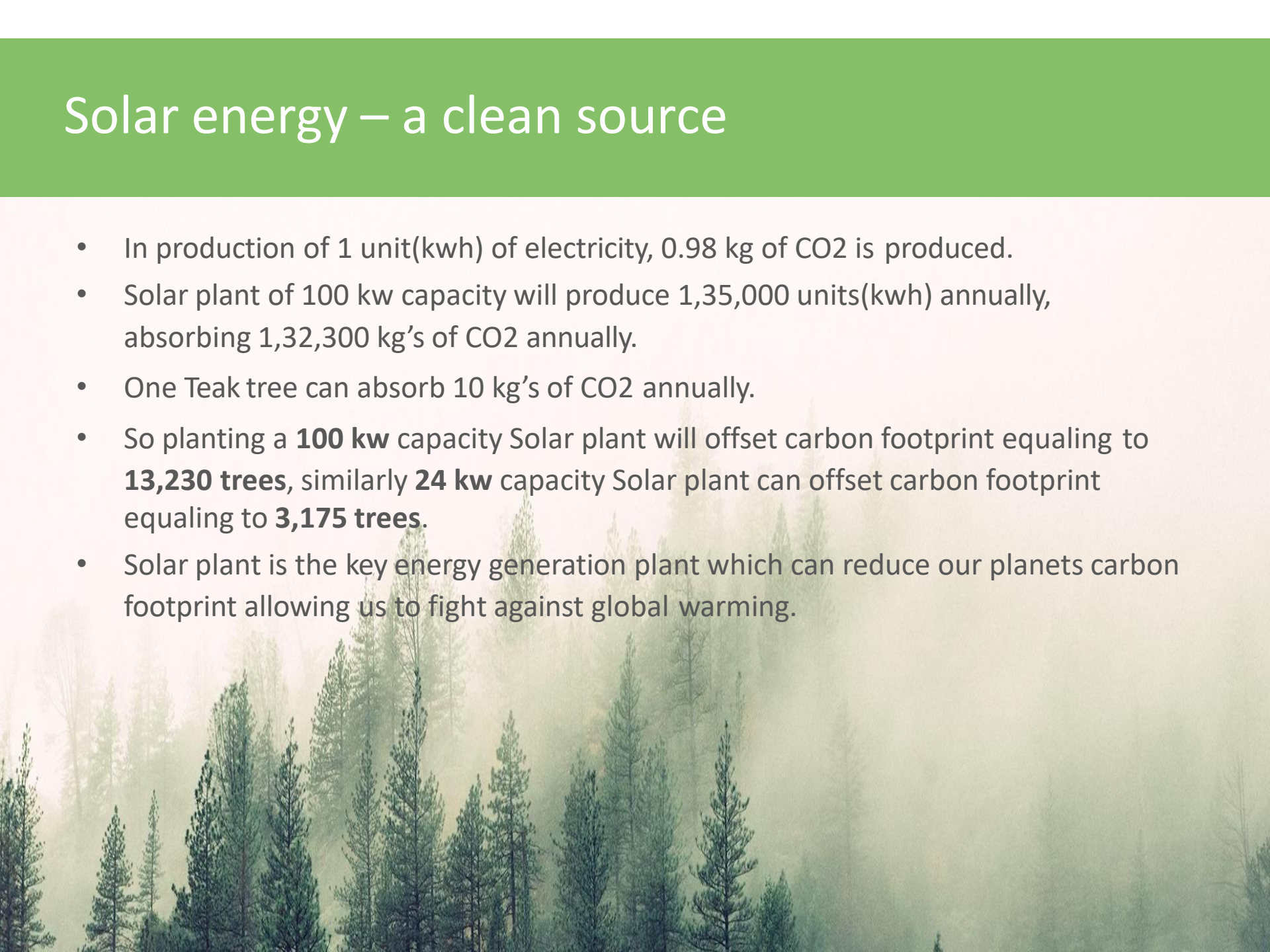


ON GRID SOLAR ROOFTOP WORKING



Solar energy – a clean source

- In production of 1 unit(kwh) of electricity, 0.98 kg of CO₂ is produced.
- Solar plant of 100 kw capacity will produce 1,35,000 units(kwh) annually, absorbing 1,32,300 kg's of CO₂ annually.
- One Teak tree can absorb 10 kg's of CO₂ annually.
- So planting a **100 kw** capacity Solar plant will offset carbon footprint equaling to **13,230 trees**, similarly **24 kw** capacity Solar plant can offset carbon footprint equaling to **3,175 trees**.
- Solar plant is the key energy generation plant which can reduce our planets carbon footprint allowing us to fight against global warming.



Thank You

“ Solar energy- Today’s resource
for a brighter tomorrow ”



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