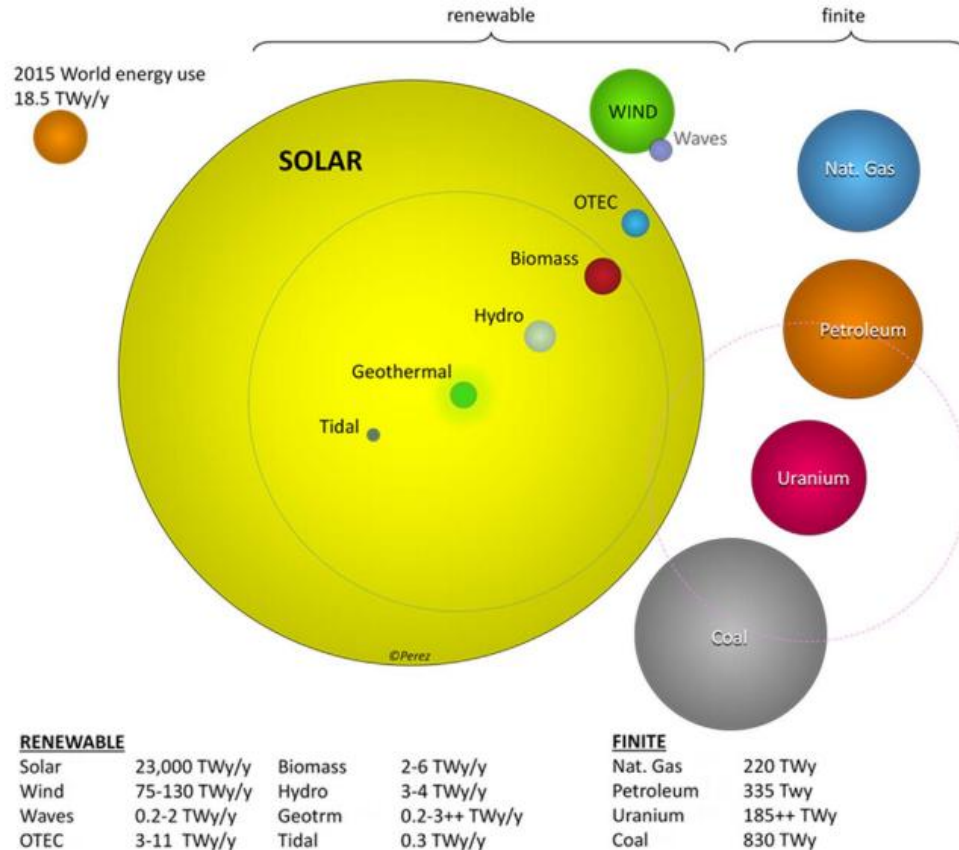


SOLAR ENERGY HARVESTER ON
NANOANTENNA,
EFFICIENCY FACTOR BETTER THAN 50%

PROBLEM (MARC PEREZ SLIDE)



<http://solarmarketpathways.org/wp-content/uploads/2017/08/NSC-Achieving-High-PV-Penetration-160526.pdf>

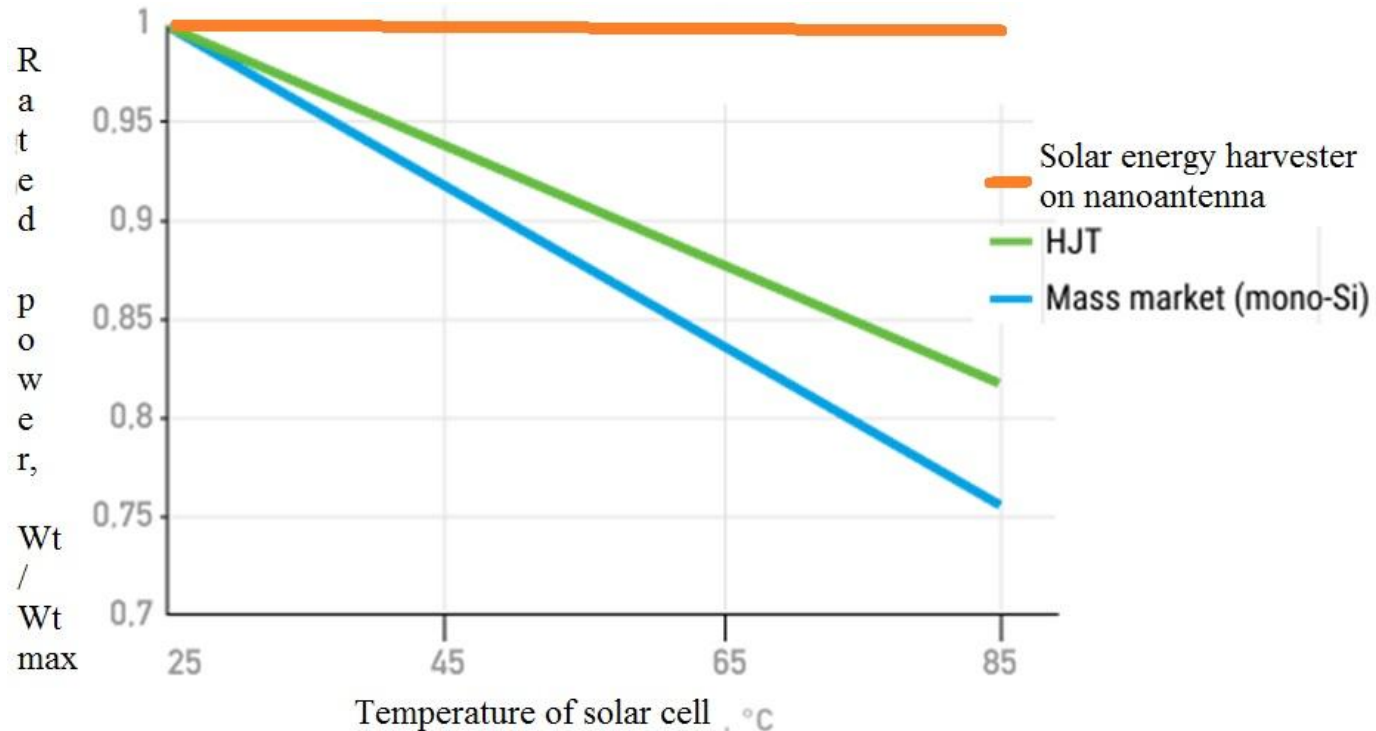
PROBLEM 1

SILICON MONOCRYSTAL SOLAR CELL EFFICIENCY FACTOR
IS 20%



PROBLEM 2

LOSS OF EFFICIENCY FACTOR WHEN SOLAR CELL IS HEATED



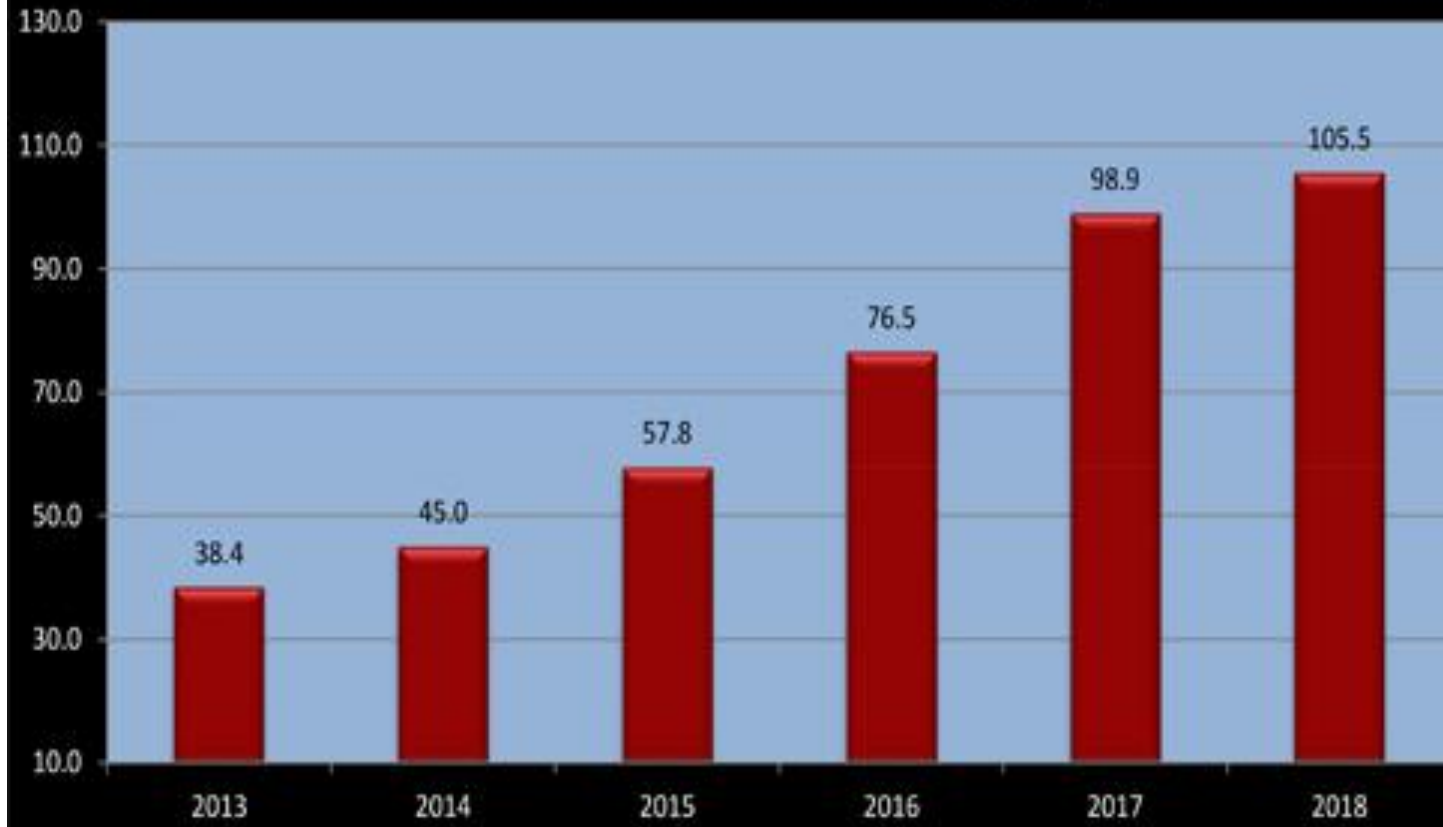
SOLVE. NANOANTENNA (OPTICAL RECTENNA)

Technology has approached the possibility of realizing an idea

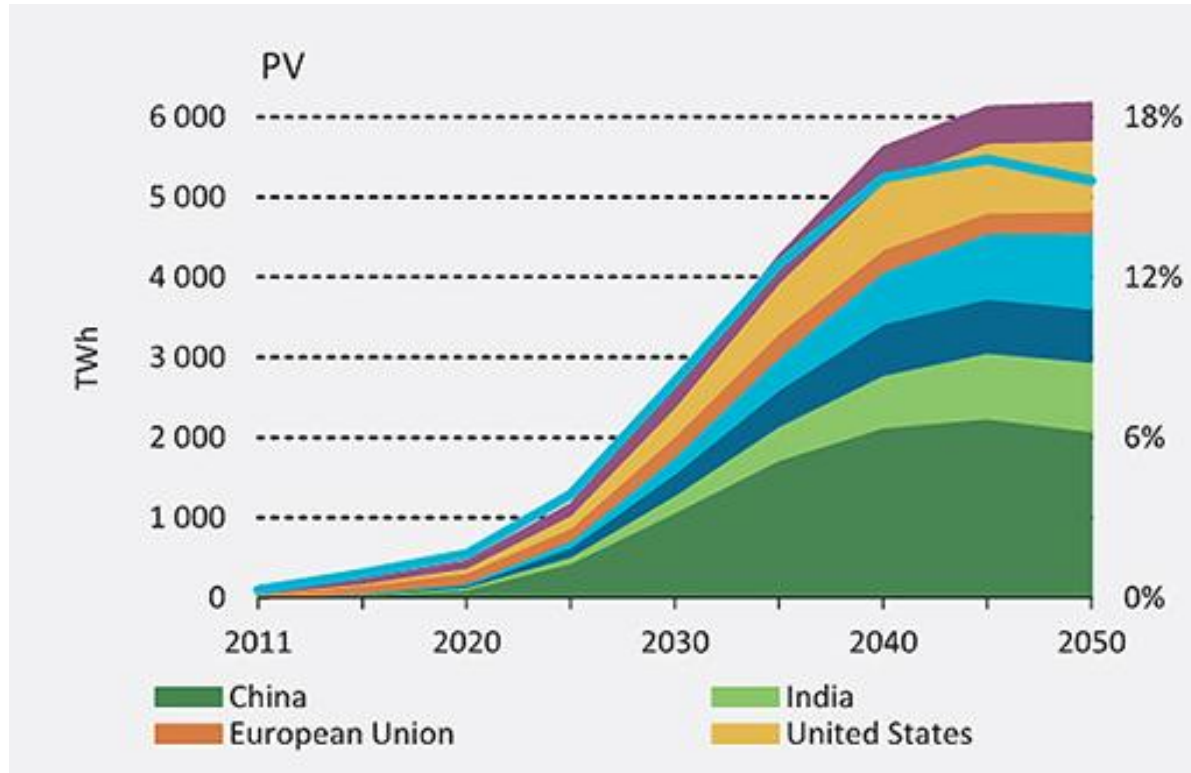
https://en.wikipedia.org/wiki/Optical_rectenna

An **optical rectenna** is a rectenna (**rectifying antenna**) that works with visible or infrared light. A rectenna is a circuit containing an antenna and a diode, which turns electromagnetic waves into direct current electricity. While rectennas have long been used for radio waves or microwaves, an optical rectenna would operate the same way but with infrared or visible light, turning it into electricity.

Worldwide Solar PV Growth (GW)



FORECAST OF PV MARKET UP TO 2050 IN TWh



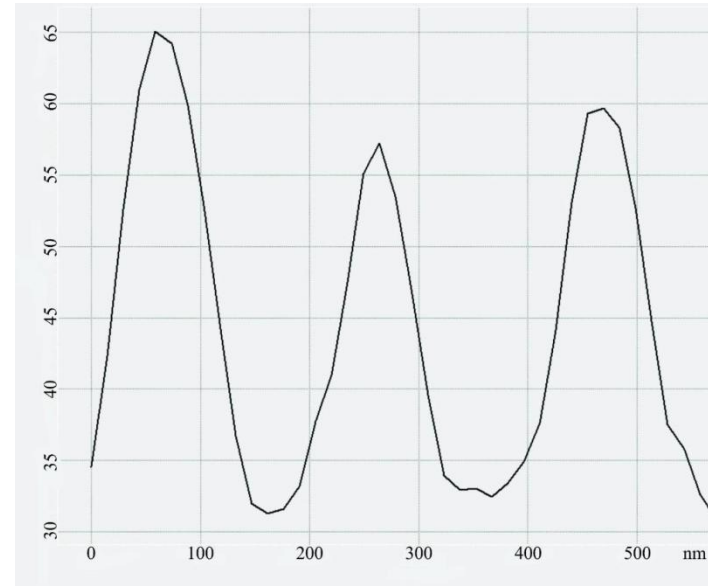
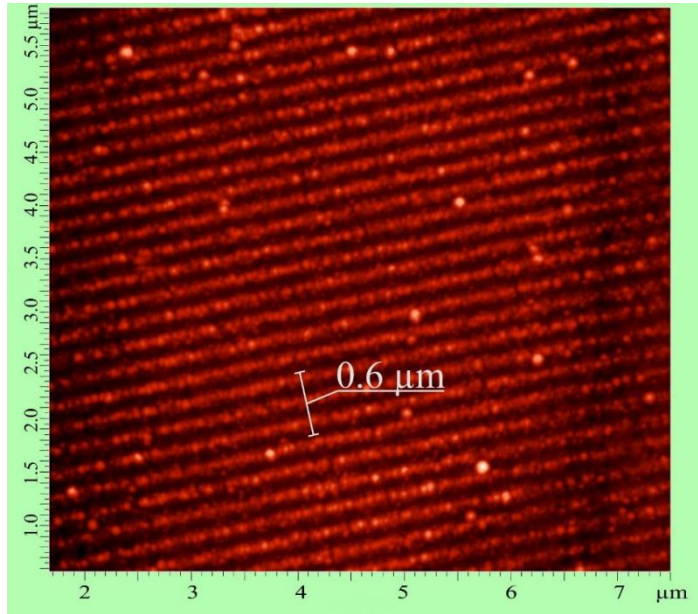
https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=73760&extra=thumbnailfigure_idm45841210457728

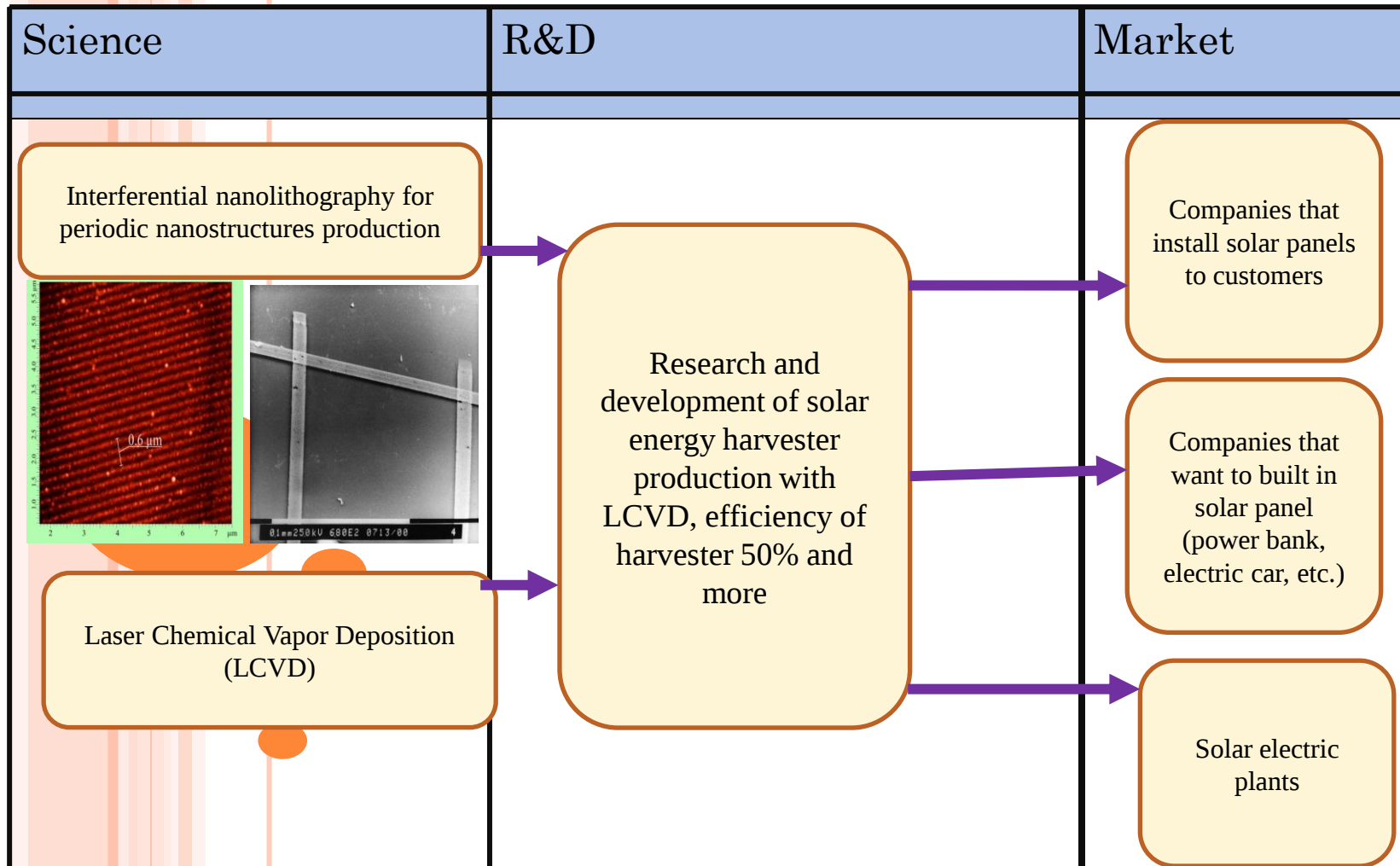
UNIQUE SELLING PROPOSITION

Collect more energy, especially in the desert

- 1. Efficiency factor better than 50%, theoretical 85%
- 2. Better than 350 Watt per square meter (Wt/m²)
- 3. Loss of efficiency factor when heating - 0

ONE-STAGE NON-PHOTO MULTI-RAY INTERFERENTIAL LCVD NANOLITHOGRAPHY TECHNOLOGY RESULTS



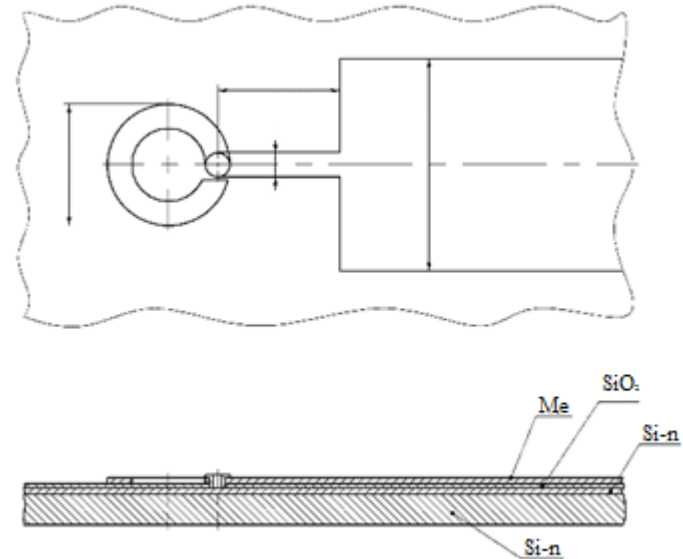
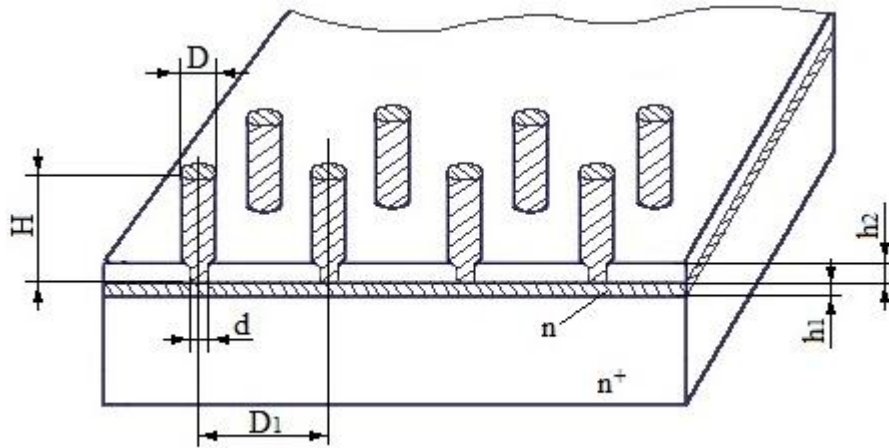


ROADMAP

		Budget, USD	2020	2021	2022	2023	2024	2025
current stage	Schottky diode LCVD technology (prototype) nanoantenna LCVD technology (prototype)							
1 step	optical rectenna prototype	100 000						
2 step	technology equipment development, small production, sales	1 000 000						
3 step	mass production technology global market	10 000 000						

GOAL OF OPTICAL RECTENNA PROTOTYPE

Solar energy harvester element production technology at least 50 cm².
One step process to get matrix of nanoantennas (optical rectennas)





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Chief Designer, PhD



Technology Engineering Company llc
Techenginco.com