

# UTOPIA @ NATIONAL INSTITUTE OF TECHNOLOGY

NIT Tiruchirappalli experiences an overall very hot and dry climate throughout the year, making Solar Energy the most efficient source for viable renewable energy for the required demand.

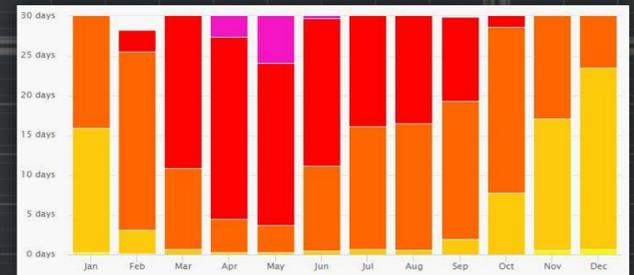
Average Max/Min temperature: 33.5°C/23.9°C

Annual Global Isolation: 1946 kWh/m<sup>2</sup>/year

Tilt Angle for Solar PV: 9°

The carbon footprint of NITT is close to 7638.95 tones in electricity consumption alone making it one of the biggest institution in this regard. Therefore conversion of all our consumed electricity to a non-CO<sub>2</sub> emitting source would be a hallmark to the green-campus initiative NITT strives towards. Solar has minimalistic CO<sub>2</sub> production (almost zero) making it further viable for establishment.

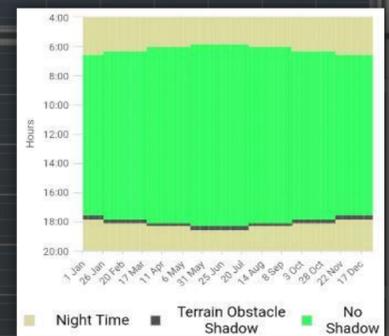
Month	Year	Consumption (in kWh)	Residential Consumption	Industrial Consumption	Commercial Consumption	Power Factor
May	2017	933808	224117	690065	18673	0.96
June	2017	717896	172277	525693	13564	0.95
July	2017	817224	196133	599987	15376	0.96
August	2017	1037641	249033	762712	20968	0.97
September	2017	1043632	250471	780518	21457	0.96
October	2017	900083	216019	666513	17865	0.96
November	2017	845592	202939	626552	16542	0.96
December	2017	576621	138403	428699	9880	0.98
January	2018	541009	130004	400786	9678	0.95
February	2018	720607	173603	533986	13547	0.97
March	2018	800581	192384	593603	15443	0.97
April	2018	1006074	240384	741186	20988	0.97



## SAVE POLAR



## USE SOLAR



Area: 1, 03,546 m<sup>2</sup>  
 Perimeter: 1413.48 m  
 Approximately 25.5867738294 acre establishment  
 Electricity generation- 310.12 Lakh kWh per year (329.9% of 2018 consumption)  
 Establishment cost (approx.) 38.635 crores, with yearly expenditure of 300 lakhs.  
 Cost saved per year: 6.2 crores + sale of excess electricity.  
 Payback period – 3 years.



Approximately 15.615972845acre establishment  
 Electricity generation- 189 Lakh kWh per year (203% of 2018 consumption)  
 Establishment cost (approx.) 22.78 crores, with yearly expenditure of 180lakhs.  
 Cost saved per year: 6.2 crores sale of excess electricity. Payback period – 3 years.  
 No vegetation for removal. Present in sparsely used region. Generating 200% of requirement would mean that NITT can sell the excess for up to 6 crores every year. Safest and most viable setup location within campus



Area: 34,147.76 m<sup>2</sup>  
 Perimeter: 892.66 m  
 Approximately 8.438095261049 acre establishment  
 Electricity generation- 102 Lakh kWh per year (109% of 2018 consumption)  
 Establishment cost (approx.) 12.28 crores, with yearly expenditure of 96lakhs.  
 Cost saved per year: 6.2 crores.  
 Payback period – 1.5 years.

# THE FUTURE IS SOLAR. THE FUTURE IS NOW.