

SOLAR BUS SHELTER

GANAPATI PRODUCTS

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INTRODUCTION



Promoting
Climate Change
Awareness
Through Public
Art

The greatly
underestimated
public bus
shelter is the
latest subject of
a creative solar
power
makeover.

With solar-
powered glow-
in-the-dark
lighting, the bus
shelter offers
way more than
just protection
from the rain.

Built atop a MS structure, the canopy incorporates both natural light and solar energy. The solar energy generates sufficient electricity to provide

LED LIGHTING,

WI-FI INTERNET SERVICE, and

DIGITAL BILLBOARD.

Roof-integrated movement sensors detect the presence of people in the bus shelter, which inform microcontrollers overseeing the shelter's luminary systems. As people occupy the bus shelter, drives a change in lighting from dim-white to bright-white, and the digital billboard offers consumption statistics or advertising along with other environmental information.

ADVANTAGES



- Solar power is pollution free and causes no greenhouse gases to be emitted after installation
- Renewable clean power that is available every day of the year, even cloudy days produce some power
- Return on investment unlike paying for utility bills
- Virtually no maintenance as solar panels last over 20 years
- Creates jobs by employing solar panel manufacturers, solar installers, etc. and in turn helps the economy
- Excess power can be sold back to the power company if grid connected.
- Ability to live grid free if all power generated provides enough for the luminaries & advertising panels.
- Can be retrofitted anywhere in record time
- Use batteries to store extra power for use at night
- Safer than traditional electric current
- Govt. grants, subsidies, tax incentives in case of CSR activities, and rebate programs are available to help with initial costs
- No trenching is needed since the solar can be close to or at the place of installation

DISADVANTAGES



- High initial costs for material and installation and long ROI (however, with the reduction in cost of solar over the last 10 years, solar is becoming more cost feasible every day)
- Needs lots of space as efficiency is not 100% yet
- No solar power at night so there is a need for a battery bank
- Depending on geographical location the size of the solar panels vary for the same power generation
- Cloudy days do not produce as much energy
- Lower solar production in the winter months

DESIGN ARCHITECTURE



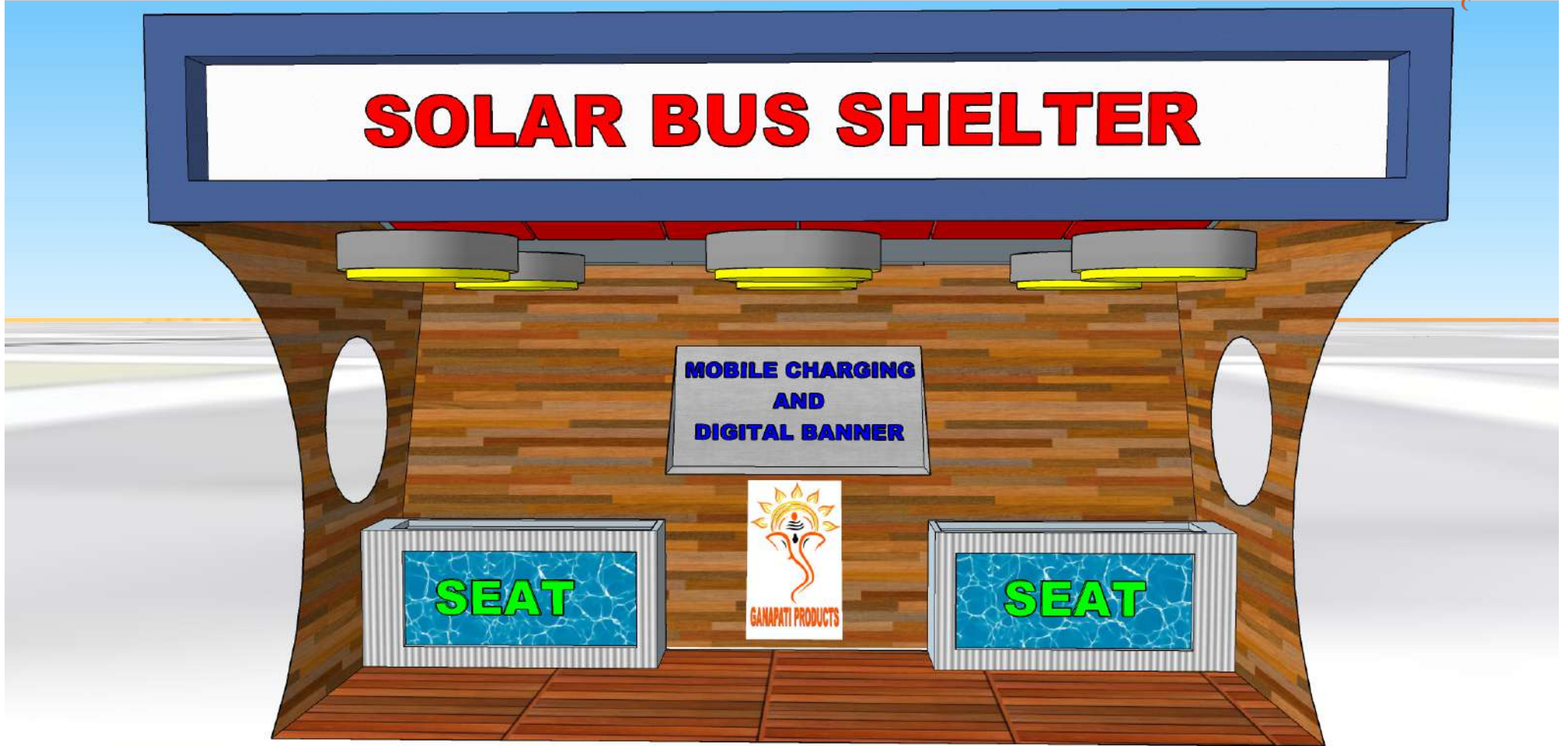
SOLAR BUS SHELTER

MOBILE CHARGING
AND
DIGITAL BANNER

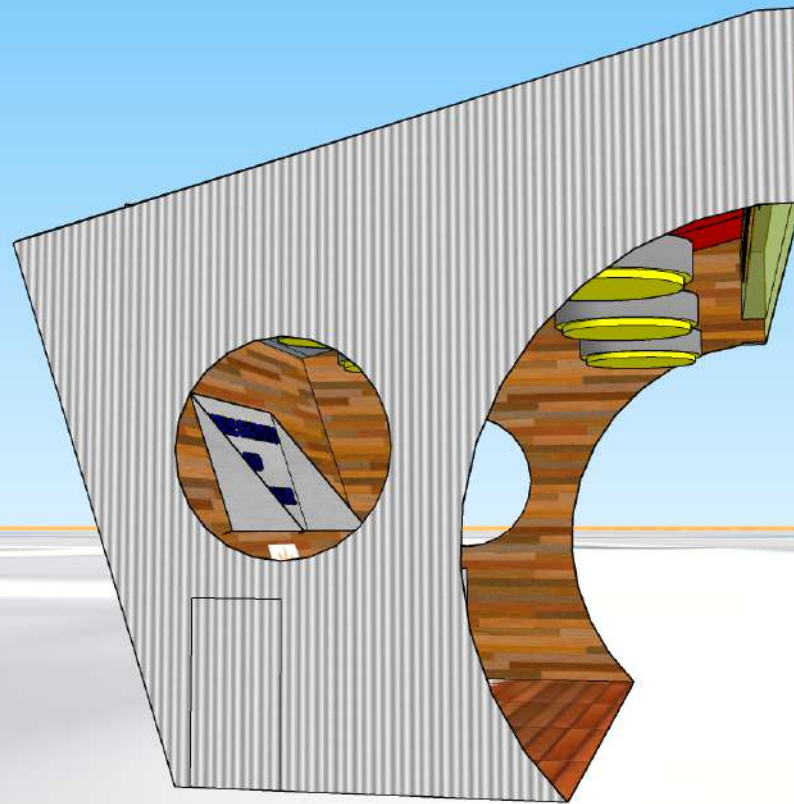
SEAT



SEAT



DESIGN ARCHITECTURE



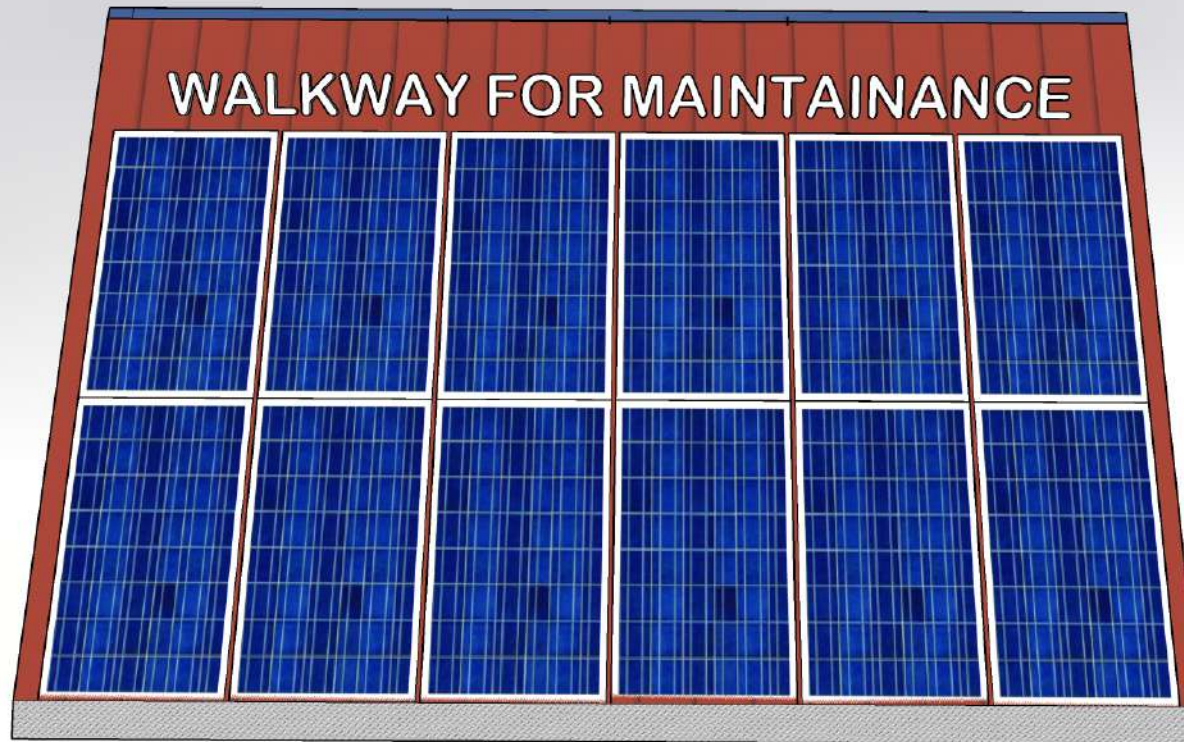
DESIGN ARCHITECTURE



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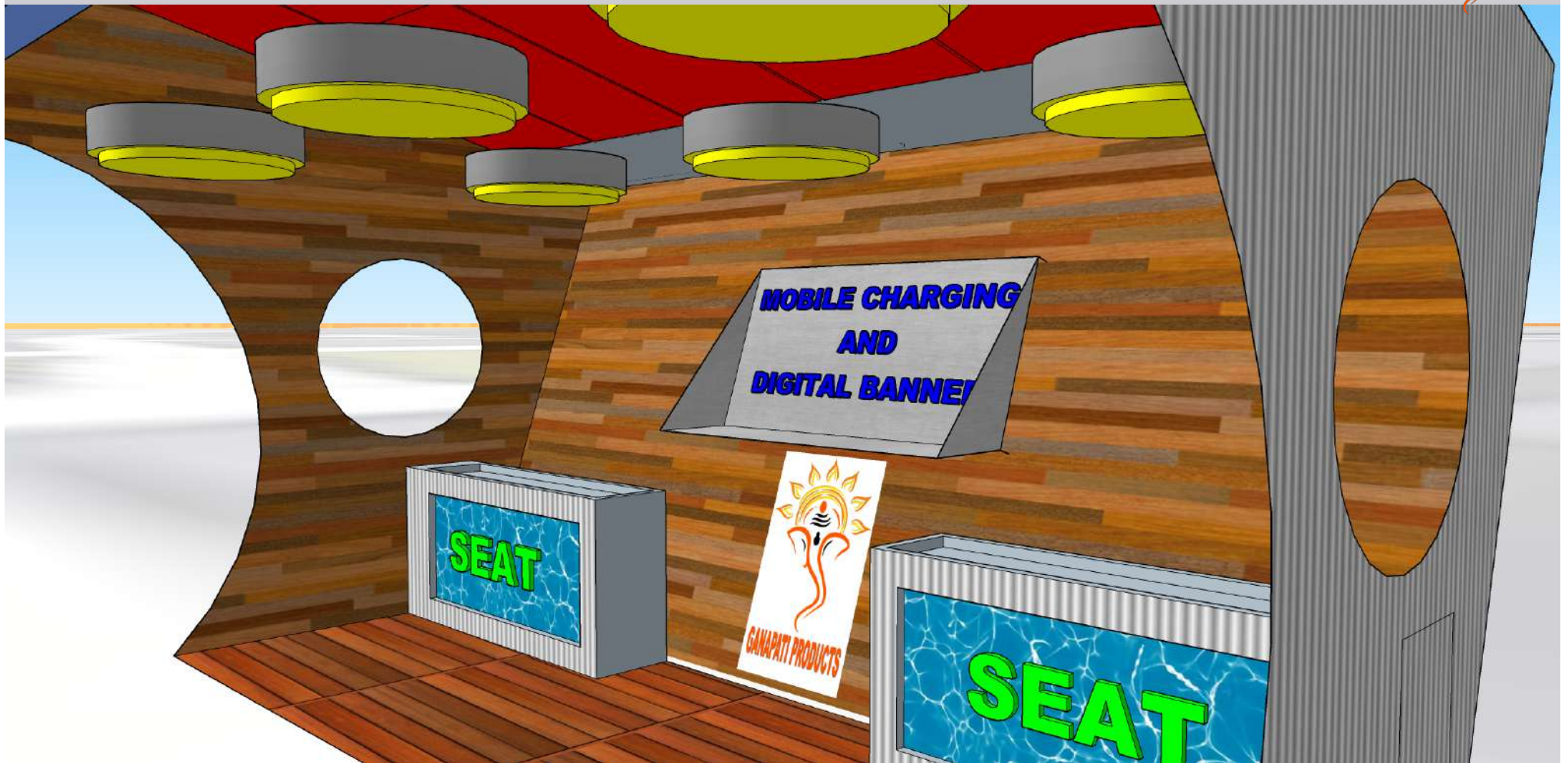
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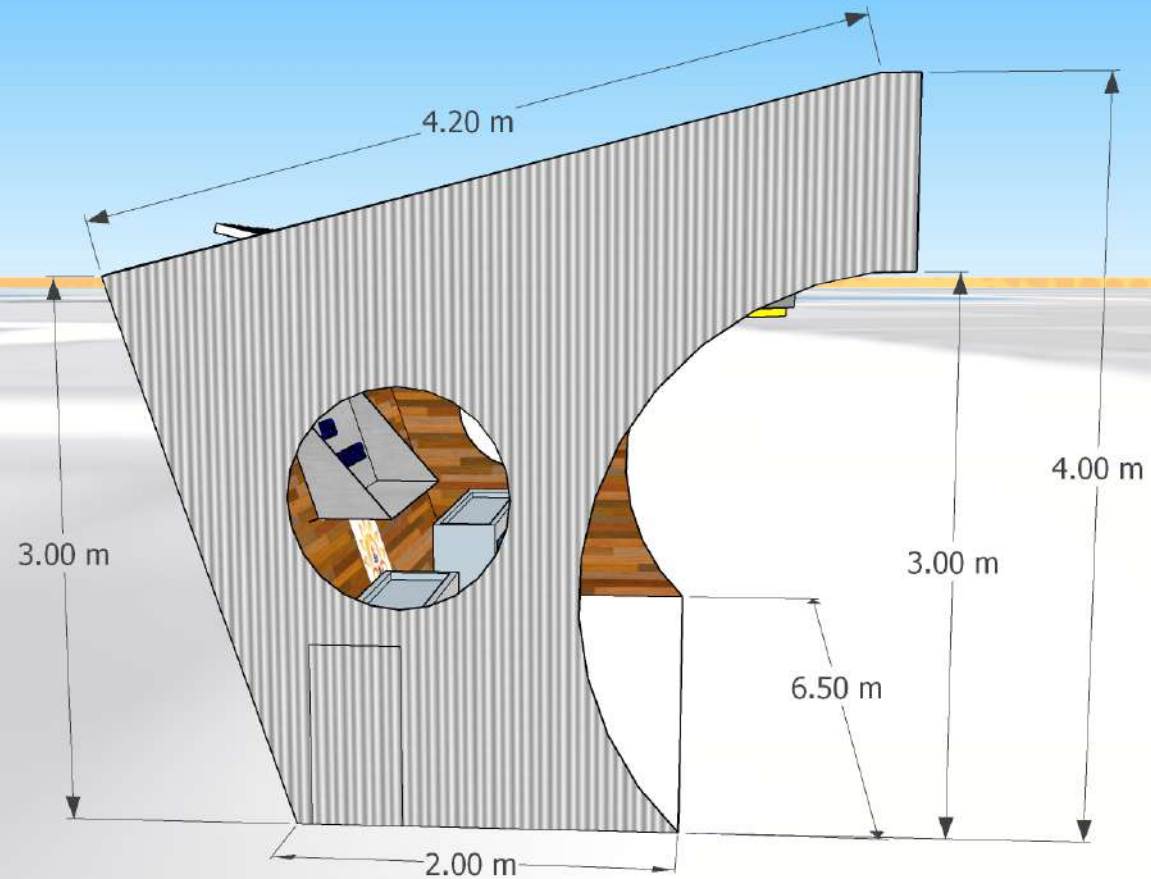
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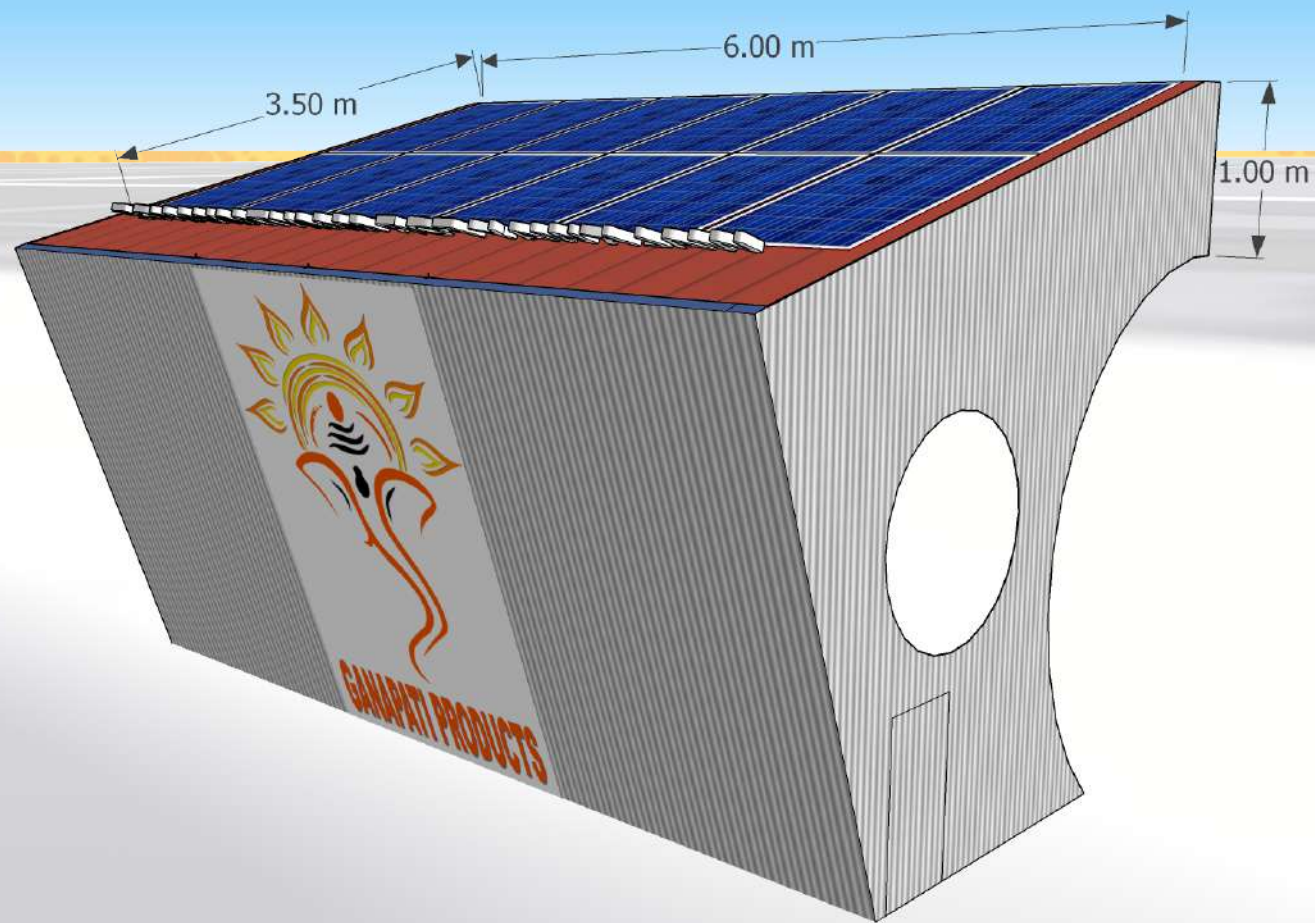
DESIGN ARCHITECTURE



DESIGN ARCHITECTURE



DESIGN ARCHITECTURE



PROJECT FINANCIALS



Group	Specifications	Amount
Solar	1KWp Solar Modules, 24V 200Ah LiFePO4 Battery, Anodized Aluminum Structure, 24VMPPT Charge Controller Unit, DC Cables, AC Cables, Battery Cables, 2nos Chemical Earthing Set, AJB, DCDB, Switch & Accessories, Photo Sensor Based Auto Control Operation, Misc.	₹ 2,52,500
Civil & Mechanical	HDGI Hollow Square , HDGI Base Plate Flat , Foundation Structure with bolting arrangements, Side hoarding frame, Front hoarding frame, Rear covering, Seats with back clamping arrangements, Sheet for Top Covering, Painting & Waterproofing, House Keeping	₹ 2,03,400
Luminaries	Front hoarding frame 5Watt 10nos Side hoarding frame 10Watt 4nos Inside Shelter 15Watt 6nos	₹ 71,500
Transportation	FOR Site 200KM, Loading, Unloading, Transit Insurance	₹ 28,500
Installation & Commissioning	Solar, Civil & Mechanical, Luminaries	₹ 39,000
	Total (EXCL. GST)	₹ 5,94,900

WARRANTY & GST FOR MAJOR ITMES



GROUP	WARRANTY	GST
Solar	Solar Polycrystalline Modules : 5 years Solar LiFePO4 Battery : 3 years Anodized Aluminium Structure : 3 years 24V MPPT Charge Controller Unit : 1 years DC, AC, Battery Cables : 1 years AJB, DCDB, Switch & Accessories : 1 years Photo Sensor Based Auto Control : 1 years	5%
Civil & Mechanical	HDGI Hollow Square , HDGI Base Plate Flat , Foundation Structure with bolting arrangements, Side hoarding frame, Front hoarding frame, Rear covering, Seats with back clamping arrangements, Sheet for Top Covering, Painting & Waterproofing, House Keeping : 1 years	18%
Luminaries	Front hoarding frame 5Watt 10nos : 1 years Side hoarding frame 10Watt 4nos : 1 years Inside Shelter 15Watt 6nos : 1 years	12%
Transportation	Loading, Unloading, Transit Insurance : Until Delivery at site	18%
Installation & Commissioning	Workmanship Warranty for Solar, Civil & Mechanical, Luminaries : 1 years	18%

UNDERSTANDING **AD** BENEFIT



Solar power is being promoted in corporates and private sector by Govt of India through Tax relief by allowing them to avail higher rate of depreciation more often termed as **Accelerated Depreciation / AD Benefit**, under section 32 of Income Tax act.

The normal depreciation rate for any general plant and machinery is 15%.

Scenario after 31st march 2017

From 1st April 2017.

Hence considering the new budget policy, all solar power plants commissioned after 1st April 2017 will be eligible for following benefits :

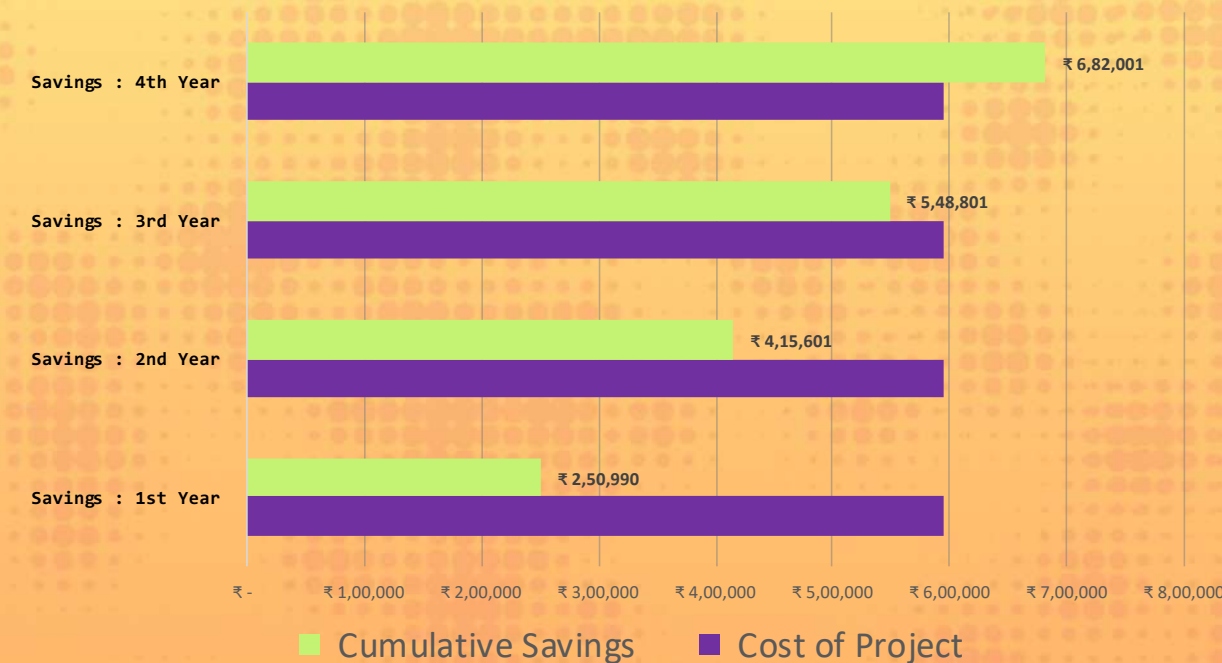
- ✓ Solar plant commissioned for more than 180 days in a financial year :- It will be eligible for 40 + 20 % depreciation. **Hence the asset owner can claim 60% depreciation in first year.** This itself is a very big benefit as it incentivizes investment in solar power systems.
- ✓ Solar power plant commissioned for less than 180 days in a financial year will be eligible for half of full year depreciation rate given above. Hence in percentage terms a solar asset owner can claim 30% depreciation (60% / 2).

RETURN ON INVESTMENT



Cost of Project	Rs.	₹ 5,94,900
Electricity tariff (Landed inclusive of ED & Cess)	Rs. / kWh	₹ 10
Estimated Solar Generation / Day	kWh	4.00
No. of Days considered for Solar Generation	Days	330
Earnings from Digital Banners (Monthly)	₹ 10,000	

**ROI
approx.
3.5 years**



Savings : 1st Year	
Estimated Solar Generation	1320kWh
Cost Savings from Solar	₹ 13,200
Accelerated Depreciation Rate (%)	60%
Accelerated Depreciation amount (Rs.)	₹ 3,56,940
Tax saved on above amount	₹ 1,17,790
Earnings from Digital Banner	₹ 1,20,000
Net Savings	₹ 2,50,990

Savings : 2nd Year	
Estimated Solar Generation	1320kWh
Cost Savings from Solar	₹ 13,200
Accelerated Depreciation Rate (%)	40%
Accelerated Depreciation amount (Rs.)	₹ 95,184
Tax saved on above amount	₹ 31,411
Earnings from Digital Banner	₹ 1,20,000
Net Savings	₹ 1,64,611

Savings : 3rd Year	
Estimated Solar Generation	1320kWh
Cost Savings from Solar	₹ 13,200
Accelerated Depreciation Rate (%)	0%
Accelerated Depreciation amount (Rs.)	₹ -
Tax saved on above amount	₹ -
Earnings from Digital Banner	₹ 1,20,000
Net Savings	₹ 1,33,200

Savings : 4th Year	
Estimated Solar Generation	1320kWh
Cost Savings from Solar	₹ 13,200
Accelerated Depreciation Rate (%)	0%
Accelerated Depreciation amount (Rs.)	₹ -
Tax saved on above amount	₹ -
Earnings from Digital Banner	₹ 1,20,000
Net Savings	₹ 1,33,200



Contact Us

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