

# *Green Building*



# Green Building Norms are Followed to Best Possible Extent for all Establishment Works

- ❖ Topography Study to retain or minimise Earthwork while planning.
- ❖ Use of Re-cycled material for Construction.
- ❖ Dust Pollution Control while construction.
- ❖ Natural Lighting provisions.
- ❖ Re-use of Material.
- ❖ Water conservation
- ❖ Energy conservation
- ❖ Use of Energy efficient and environmental friendly equipment

6 CLEAN WATER  
AND SANITATION



# *Clean Water & Sanitation*

*Water Conservation & Recycling\*\**

## STP and ETP with ZLD



**STP for treatment of sewage water**

**STP Treated Water used for Gardening**



**ETP for treatment of process effluents**

**ETP incorporated with Zero Liquid Discharge Technology**

# Water Conservation Initiatives



**Drip Irrigation Systems**

**Use of Water Aerators**

**Use of Water Sprinklers in Garden**

**Sensor Based Water Dispensers**

**Rain Water Harvesting**

**Use of Air Cooled Equipments**

**Close Monitoring of Water Consumption**

**Awareness**



*Affordable & Clean energy*

&

*Clean energy*



# 165 kWp SOLAR POWER PLANT- ARAI KOTHRUD



**Plant commissioning Date- 16<sup>th</sup> Jun 2023**

**Total Roof top area Utilized**



**900 Sq. Mtr**

**Total Solar Plant capacity -**



**165 kWp**

**Guaranteed unit generation/Year-**



**2,49,620 kWh/Year**

**Guaranteed unit generation for  
25 Years -**



**60 Lacs kwh**

**Tons of CO 2 saving/Year**



**200 Ton/Year**



**Expected  
ROI-  
Within  
2-3 years**

**Avg. Energy  
cost saving  
per year-  
39 lacs /Yr.**

# 667 kWp SOLAR POWER PLANT-HTC CHAKAN



**Plant commissioning Date- 14<sup>th</sup> May 2023**

**Total Roof top area Utilized** → **3800 Sq. Mtr**

**Total Solar Plant capacity -** → **667 kWp**

**Guaranteed unit generation/Year-** → **9,28,300 kWh/Year**

**Guaranteed unit generation for 25 Years -** → **230 Lacs kwh**

**Tons of CO 2 saving/Year** → **800 Ton/Year**

**Expected  
ROI-  
Within  
2-3 years**

**Avg. Energy  
cost saving  
per year-  
130 lacs /Yr.**

# 50 kWp SOLAR POWER PLANT– FID CHAKAN



**Plant commissioning Date- 17<sup>th</sup> Feb 2023**

**Total Roof top area Utilized**



**250 Sq. Mtr**

**Total Solar Plant capacity -**



**50 kWp**

**Guaranteed unit generation/Year-**



**75000 kWh/Year**

**Guaranteed unit generation for  
25 Years -**



**18.60 Lacs kwh**

**Tons of CO 2 saving/Year**



**65 Ton/Year**

**Expected  
ROI-  
Within  
2-3 years**

**Avg. Energy  
cost saving  
per year-  
8 lacs /Yr.**



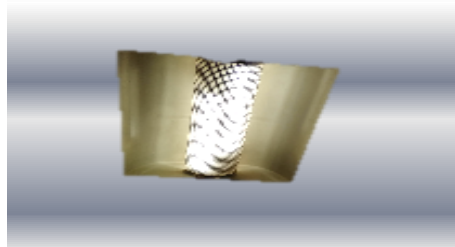
# Responsible consumption & Production

Energy conservation\*\*



From PL and CFL Lights To

**LED Lights**



Energy efficient LED lighting

Conventional Capacitors

**RTPFC**



Power quality improvement



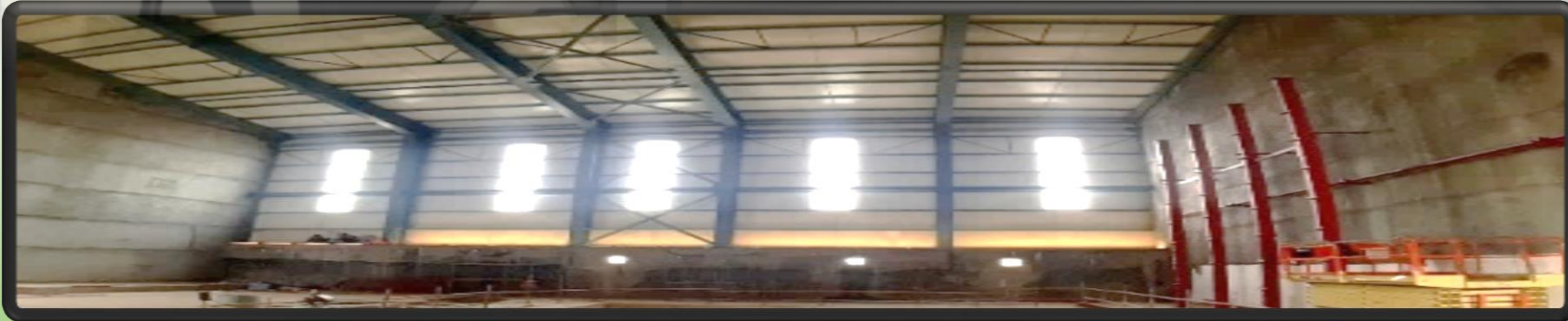
Design ,selection of energy efficient



**Variable frequency drives for energy conservation**



**Ultrasonic humidifier instead of PAN type humidifier**



Energy conservation through use of natural lighting

## CORPORATE OBJECTIVES

### ARAI/Corporate Objectives

Version No.04

Version Date: 20.07.2023

1. Maintain average annual growth rate of  $\geq 10\%$ .
2. Strive for customer satisfaction through continual improvement of our processes.
3. Enhance technical capabilities to address demanding requirements and harmonization of standards for the global customers.
4. Continuously improve our processes to reduce operational losses and enhance efficiency.
5. Safeguard the Confidentiality, Integrity and Availability of information and intellectual property.
6. Establish Safe, Energy Efficient and Green Building compliant new facilities at Chakan, Takwe and Kothrud.
7. Provide eco-friendly, safe working environment.
8. Drive for energy conservation initiatives and reduce carbon foot print.
9. Develop sustainable green coverage across all ARAI sites.

DIRECTOR

DIRECTOR

## ENERGY CONSERVATION POLICY

**ARAI**  
Progress through Research

THE AUTOMOTIVE RESEARCH ASSOCIATION OF INDIA

### ENERGY CONSERVATION POLICY

Version No.02

Version Date: 13.10.2022

We at ARAI, are committed to conserve energy in all forms. In our endeavour to achieve excellence in conserving energy, we shall always strive to -

- Make sure to optimise the use of energy i.e. electricity, fuels and utilities.
- Maintain our equipment in the most energy efficient operating condition.
- Satisfy applicable legal and other requirements related to energy efficiency, energy use and energy consumption.
- Procure energy efficient equipment for our processes.
- Strive to venture in new environment friendly technologies which are self-sustainable and cost effective.
- Adopt Green Building norms and renewable energy aspects for energy efficient Infrastructure in ARAI facilities Establishment.
- Monitor our energy consumption closely.
- educate and motivate our employees and stakeholders for conserving energy.

DIRECTOR



DIRECTOR

# Recognition Awards

**FROM MEDA :  
ENERGY CONSERVATION-17-18**



**FROM MCCIA :  
GREEN ENERGY INITIATIVES-22-23**

