

## **About the Flyavionics**

We provide aerial data and solutions using latest unmanned aerial vehicle (UAV) technology. Offering a combination of stunning aerial application and services and breathtaking aerial for a variety different projects. The aerial vantage team offer a unique service that bespoke to your application and desired specification.

- 1 INTERACTIVE Drone Base Solution
  - ✓ Achieve Maximum Energy Production and Faster ROI from your Solar Farms.

- 2 FOR EVERY SECTOR
  - ✓ Residential
  - ✓ Industrial
  - ✓ Commercial
  - ✓ Institutional

## Why To Wash Solar Modules

### Soiling Losses ⇒

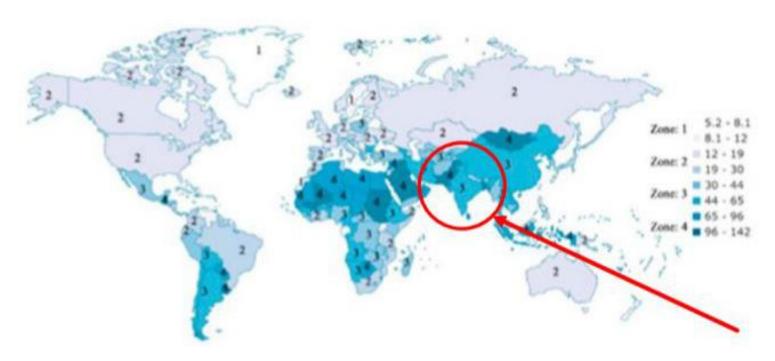
Soiling losses refer to loss in power resulting from snow, dirt, dust and other particles that cover the surface of the PV module.

Dust is generated from many sources such as pollution by wind, pedestrian volcanic eruptions, and vehicular movements among many others.

The accumulated dust over time aggravates the soiling effect. In fact, the amount of accumulated dust on the surface of the PV module affects the overall energy delivered from the PV module on a daily, monthly, seasonal and annual basis.

Different parts of the world is assessed and it was found that the India, Middle East and North Africa are the worst dust accumulation zones in the world.

## **Dust Intensity Around The World**



India is in Zone 3 –2nd highest Dust Intensive Zone

# **Effect of Dust and Soiling on Performance**

| 1 Irradiation loss due to dust around 5% is reported  |
|---|
|   |
| Dirty solar array has 1.4% reduction each year.   |
| The average deduction in power output in different reign, for example power output reduce in Saudi 40%, in Kuwait round 65%, Egypt 33–65% and in USA 1–4.7% |
| Dust accumulation reduce peak power around 18% e.   |
| The founding shows that degradation output of 80% or less with 3% of spot dirt on the PV module   |
| During one month power output reduce from 87 to 75%.  |
| 7 <b>Efficiency reduce 26% &amp; 40%</b> from solar collectors and PV module, respectively  |
| 8 Voltage loss around 0.86% on other hand current reduce 13%.   |
| 9 Efficiency reduce after 1 and 6 month by 33.5% and 65.8% respectively.  |
| Spraying the surface of PV can recover 95% of the reflectance losses  |

## **FlyAvionics Services**

#### Individual Customers | Clients | Organizations

- ✓ Monthly 1 or 2 visits on Site to clean the Modules
- ✓ Trained Team with knowledge of Installation and Commissioning to review and report any other factors affecting Power output
- ✓ Mechanical as well as Electrical Assistance available immediately in case of any defects observed during Cleaning.
- ✓ Option of only Washing or Inspection or combined Packages
- ✓ Option of facility of Remote Monitoring and Data Management for the Solar Site.
- ✓ Any Breakdown Call will be attended in 24 Hours within Hyderabad and 72 Hours out of Hyderabad.
- ✓ Provides Higher-resolution visual inspections with drones compared to ground-based inspections

## **Solar Module Cleaning Packages**

| Size Of System | Charges / Visit | No. of Visits | Total Cost /<br>Annum |
|----------------|-----------------|---------------|-----------------------|
| KW             | Rs.             | Nos           | Rs.                   |
| 1 to 5 KW      | 4,000           | 12            | 48,000                |
| 6 to 15 KW     | 7,000           | 12            | 84,000                |
| 16 to 25 KW    | 9,000           | 12            | 1,08,000              |
| 26 to 50 KW    | 12,000          | 12            | 1,44,000              |
| 51 to 100 KW   | 16,000          | 12            | 1,92,000              |

#### Note:-

- ✓ Client should be responsible for making water available as per requirement.
- ✓ Safe and clear Access to the Solar Site will be provided by Client.
- ✓ Any special Coatings if required due to special conditions at Site will cost additional.
- ✓ The above prices are only for Module Cleanings.
- ✓ For Sites out of Hyderabad, additional charges for Travel and other Logistics will be extra as per Location.
- ✓ More-than 100kw will charges 200rs per month for 1kw Example: 500kw it will charges 1,00,000 rupees per month
- ✓ GST charges will be additional

## **Thermal Inspections Packages**

| Size Of System | Charges / Visit | No. of Visits | Total AMC Cost /<br>Annum |
|----------------|-----------------|---------------|---------------------------|
| KW             | Rs.             | Nos           | Rs.                       |
| 1 to 5 KW      | 7,000           | 4             | 28,000                    |
| 6 to 15 KW     | 15,000          | 4             | 60,000                    |
| 16 to 25 KW    | 20,500          | 4             | 82,000                    |
| 26 to 50 KW    | 28,000          | 4             | 1,12,000                  |
| 51 to 100 KW   | 36,000          | 4             | 1,44,000                  |

#### Note:-

- ✓ Safe and clear Access to the Solar Site will be provided by Client.
- ✓ Any Material if required will cost additional
- ✓ The above prices are only for services only.
- ✓ 2 Breakdown visits will be free per year. Others will be chargeable at Rs. 3000 per visit per day per person.
- ✓ For Sites out of Hyderabad, additional charges for Travel and other Logistics will be extra as per Location.
- ✓ More-than 100kw will charges 360rs for 1kw Example: 500kw it will charges 1,80,000 rupees For every 3months.
- ✓ GST charges will be additional

# Thermal + Module Cleaning Packages

| Size Of System | Total Cost / Annum |
|----------------|--------------------|
| KW             | Rs.                |
| 1 to 5 KW      | 70,000             |
| 6 to 15 KW     | 1,10,000           |
| 16 to 25 KW    | 1,70,000           |
| 26 to 50 KW    | 2,40,000           |
| 51 to 100 KW   | 3,20,000           |

## Remote Monitoring and Data Acquisition Packages

| Size Of System | Total Cost / Annum |
|----------------|--------------------|
| KW             | Rs.                |
| 1 to 35 KW     | 70,000             |
| 36 to 100 KW   | 1,00,000           |

#### Note:-

- ✓ Safe and clear Access to the Solar Site will be provided by Client.
- ✓ The above prices are only for services only.
- ✓ For Sites out of Hyderabad, One time additional charges for Travel and other Logistics.

# Register with us and...

Reduce



**Operations Cost** 

**Downtime** 

**Breakdowns** 

**System Degradation** 

**Increase** 



**Power Output** 

**Savings** 

**Efficiency** 

**System Life** 



A commercial solar system (100kW) will offset over 18,00,000 kg of carbon dioxide over 15 years, Saving the equivalent of



- ✓ CO2 absorbed by 1700 trees in their lifetime
- ✓ Amount of net CO2 exhaled by 450 humans for 15 years
- ✓ Driving a car 72,00,000 kms

## Thank You!!



Website: <a href="https://www.flyavionics.com/">https://www.flyavionics.com/</a>



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