

## BOQ IBA Karachi Solar Cleaning

| Sr No                                                                                                                                                                                                                                                                                                                                                         | Description                                                                                                                                                                                                                                                                                                                                                                                        | Unit | Qty |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|
| 1                                                                                                                                                                                                                                                                                                                                                             | <p>We require the cleaning of On-grid Elevated Car Port, Semi elevated &amp; PEB Shed Mounted solar panel system in accordance with the manufacturer's guidelines.</p> <p>Technical Details:</p> <p>PV Modules: 585, 595 Wp Mono PERC Half-Cell Crystalline (Bifacial)</p> <p>Brand: Trina</p> <p>System Size: 152kWp</p> <p>Nos. of Solar Panel: 272</p> <p>Location: IBA Main Campus Karachi</p> | Each | 10  |
| 2                                                                                                                                                                                                                                                                                                                                                             | <p>We require the cleaning of On-grid Elevated Car Port &amp; Ground Mounted solar panel system in accordance with the manufacturer's guidelines.</p> <p>Technical Details:</p> <p>PV Modules: 550, 585, 575 Wp Mono PERC Half-Cell Crystalline (Monofacial/Bifacial)</p> <p>Brand: Jinko</p> <p>System Size: 267kWp</p> <p>Nos. of Solar Panel: 468</p> <p>Location: IBA Staff Town</p>           | Each | 10  |
| 3                                                                                                                                                                                                                                                                                                                                                             | <p>We require the cleaning of On-grid Elevated Car Port Mounted solar panel system in accordance with the manufacturer's guidelines.</p> <p>Technical Details:</p> <p>PV Modules: 545 Wp Mono PERC Half-Cell Crystalline (Monofacial)</p> <p>Brand: Jinko</p> <p>System Size: 826kWp</p> <p>Nos. of Solar Panel: 1516</p> <p>Location: IBA Main Campus Karachi</p>                                 | Each | 10  |
|                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |
| <p><b>Cleaning Protocol:</b></p> <p>Cleaning must be performed without the use of abrasives or chemicals. Only air, water, and microfiber cloths as specified by the manufacturer are permitted for cleaning.</p>                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |
| <p><b>Contractor Responsibilities:</b></p> <p>The contractor must provide all necessary labor, labor supervision, and approved materials to clean the solar panels at the specified site. The contractor must provide cleaning mops, water pumps/motors, electrical extension wire, flexible water pipe as required to meet the specific site conditions.</p> |                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |
| <p><b>Utilities:</b></p> <p>Only Water and electricity connection will be supplied by IBA. Power cable &amp; water pipe for pump is needed on-site, the contractor is responsible for arranging and supplying these items.</p>                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |
| <p><b>Water Usage:</b></p> <p>The contractor must use karcher pump or equivalent, having low-water consumption equipment to minimize water wastage.</p>                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |
| <p><b>Scaffolding and Ladders:</b></p> <p>If scaffolding or ladders are required, it will be the contractor's responsibility to arrange them.</p>                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |
| <p><b>Safety Equipment:</b></p> <p>Safety Equipment: All laborers must be equipped with appropriate safety gear. Any laborer without proper safety equipment will not be permitted on site.</p>                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |
| <p><b>Note:</b></p> <p>The contractor is responsible for any damage to the solar arrays or PV modules caused during cleaning. This includes replacement with equivalent make, model, and specifications with all related accessories.</p>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |