

# What Happens If Solar Power Plants Are Not Cleaned?



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If solar power plants (SPPs) are not cleaned, their energy production efficiency can significantly decrease. Dirt, dust, bird droppings, leaves, and other contaminants accumulate on the surface of solar panels, blocking sunlight from reaching the panel surface. This directly affects the amount of energy the panels can generate, leading to energy production losses. So, what happens if SPPs are not cleaned, and how does this result in economic losses?

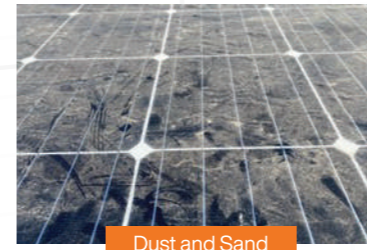
## ● Economic Losses

The energy production losses caused by the lack of cleaning of SPPs directly translate into economic losses. Research shows that contamination can reduce the performance of solar panels by **20%** to **30%**. For every 1 MWp of installed capacity, this can result in a financial loss of up to **30,000 Euros**.

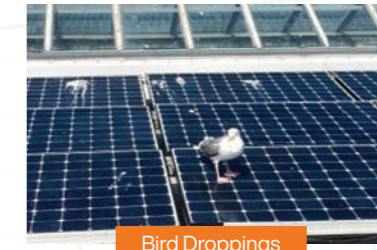
## ● Other Negative Effects

The impact of not cleaning SPPs is not limited to energy production and economic losses. Dirty panels can also negatively affect the lifespan of the panels in the long term. Dirty surfaces can cause uneven temperature distribution on the panel, leading to temperature stress (Hot spots). Over time, these stresses can damage the panel components, leading to premature degradation of the panels.

## ● Energy Production Losses



Dust and Sand



Bird Droppings



Algae / Fungi / Mosses



Pollen



Industrial Pollution



Agriculture Emission

Solar panels covered with contaminants absorb less sunlight, resulting in lower electricity production. Various studies have shown that dirt accumulation on solar panels can cause energy production losses ranging from **5%** to **20%**.

For example, in a dusty and dirty region, an SPP's annual energy production loss can reach up to **20%**. This loss can vary depending on the location, tilt, and environmental factors of the solar panel. In cases where the panels remain uncleaned for extended periods, the production loss can increase up to **50%**.



Solution

## Regular Cleaning and Maintenance

Regular cleaning and maintenance are essential for the efficient operation of SPPs. Solar panel cleaning should be carried out by professional teams using appropriate equipment and techniques. **Regular cleaning minimizes energy production losses and prevents economic losses.** Additionally, it extends the life of the panels, preserving the long-term value of the investment.

In conclusion, if SPPs are not cleaned, significant energy production losses can occur, leading to substantial economic burdens. Regular cleaning and maintenance ensure that SPPs operate at maximum efficiency and protect the value of your investment in the long term.