# VITAPANEL®
# CLEAN ECO




## Biobased & Biodegradable

Vitapanel Clean ECO helps to revitalize your solar panels and increase their energy output in an easy and sustainable way. It's concentrated formula, approved ECODETERGENT by ECOCERT, is effective against most common types of soiling like bird dropping, dust and pollen. By cleaning your solar panels regularly you can also extend their lifetime.

**Research shows that solar panels that are cleaned regularly:**

## Produce more energy

**On average up to 5% more energy!**

- European wide study shows that average energy losses due to soiling in Europe are 5,3%, peaking at 14% in Spain and dropping to around 2% in Norway. This study took into account that rain cleans around 10% of the soiling. [1]
- In dry and dusty areas energy losses are much higher, ranging from 15-30%. [2]

## Have a longer lifespan

**Pollution can cause permanent damage.**

- **Hotspots:** Dirt buildup blocks sunlight, causing some solar cells to overwork. This leads to local overheating (hotspots), shortening the panel's lifespan.
- **Delamination:** Long-term soiling traps moisture and chemicals, damaging the glass and sealant layers.
- **Corrosion:** In industrial or coastal areas, dirt can chemically react with the panel surface, leading to glass and frame corrosion.[3]

1. *Photovoltaic soiling loss in Europe: Geographical distribution and cleaning recommendations - Renewable Energy, 2025*
2. *Performance analysis of innovative cleaning and soiling mitigation solutions in the semi-arid climate of Benguerir, Morocco – Heliyon, 2023.*
3. *Techno-Economic Assessment of Soiling Losses and Mitigation Strategies for Solar Power Generation – Joule, 2019 & Performance analysis of innovative cleaning and soiling mitigation solutions in the semi-arid climate of Benguerir, Morocco – Heliyon, 2023.*

**www.vitapanel.com**

## Vitapanel Clean ECO is:

### Sustainable

- Biobased and biodegradable
- Approved ECODETERGENT by ECOCERT
- Safe for solar panels (approved by TUV Sud)

### Effective

- Great cleaning results
- More energy output
- Faster cleaning and less water needed

### Easy-to-use

- 1 cleaner for most common dirt types
- Suitable for manual, machine and drone application
- Concentrated formula (10L cleans approx. 1400-1700m$^2$ panels)

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Vitalize Your Solar Panels

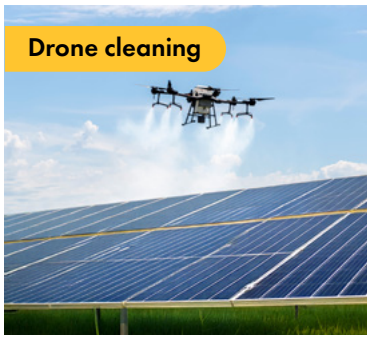
## Vitapanel Clean ECO can be applied with all common ways of cleaning solar panels:










## Cleaning application types

Vitapanel Clean ECO can be used with all types of cleaning methods and systems. The most appropriate method, cleaning frequency and needed dilution may vary based on the severity of the contamination and the specific characteristics of the site. Solar cleaning is a trade-off between cost and additional energy output. In some situations initial cleaning of heavy soiling requires methods with brushing, in other cases a fast and efficient (regular maintenance) cleaning with drones will bring the desired additional energy output.

**Application Guidelines:**

**Manual/Robot/Tractor application: spray, brush, rinse**

With manual, tractor or robot application you spray the solution in a 1:20 dilution*, let it soak for 30 minutes, brush it and than rinse it with (demineralized) water.

**Drone and helicopter application: spray, rinse by rain**

For use with drones or helicopter spray it directly on the panels in a 1:10 dilution* and wait for rain to wash it off. It is most effective when a considerable amount of rain is expected within 1-3 days.

** Dilution required may vary based on the severity of soiling and type of dirt. When using a rotating brush driven by water with a dosing pump, dilution can be substantial higher based upon personal preference and experience.*

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## ECOCERT-approved

ECOCERT, a globally recognized standard for environmentally friendly and sustainable products. This approval ensures that our solar panel cleaner meets strict criteria for biodegradability, eco-friendly ingredients, and minimal environmental impact.

With ECOCERT, you can trust that Vitapanel is both effective and safe for the planet.

ECO CERT®
ECODÉTERGENT

vitapanel

**Vitalize your solar panels**

Vitapanel provides advanced coatings and cleaners specifically designed for solar panels, addressing the need for effective, safe and sustainable solutions. We support the solar industry in keeping their assets vitalized!

**Vitapanel® is a brand of Lumiforte®**

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