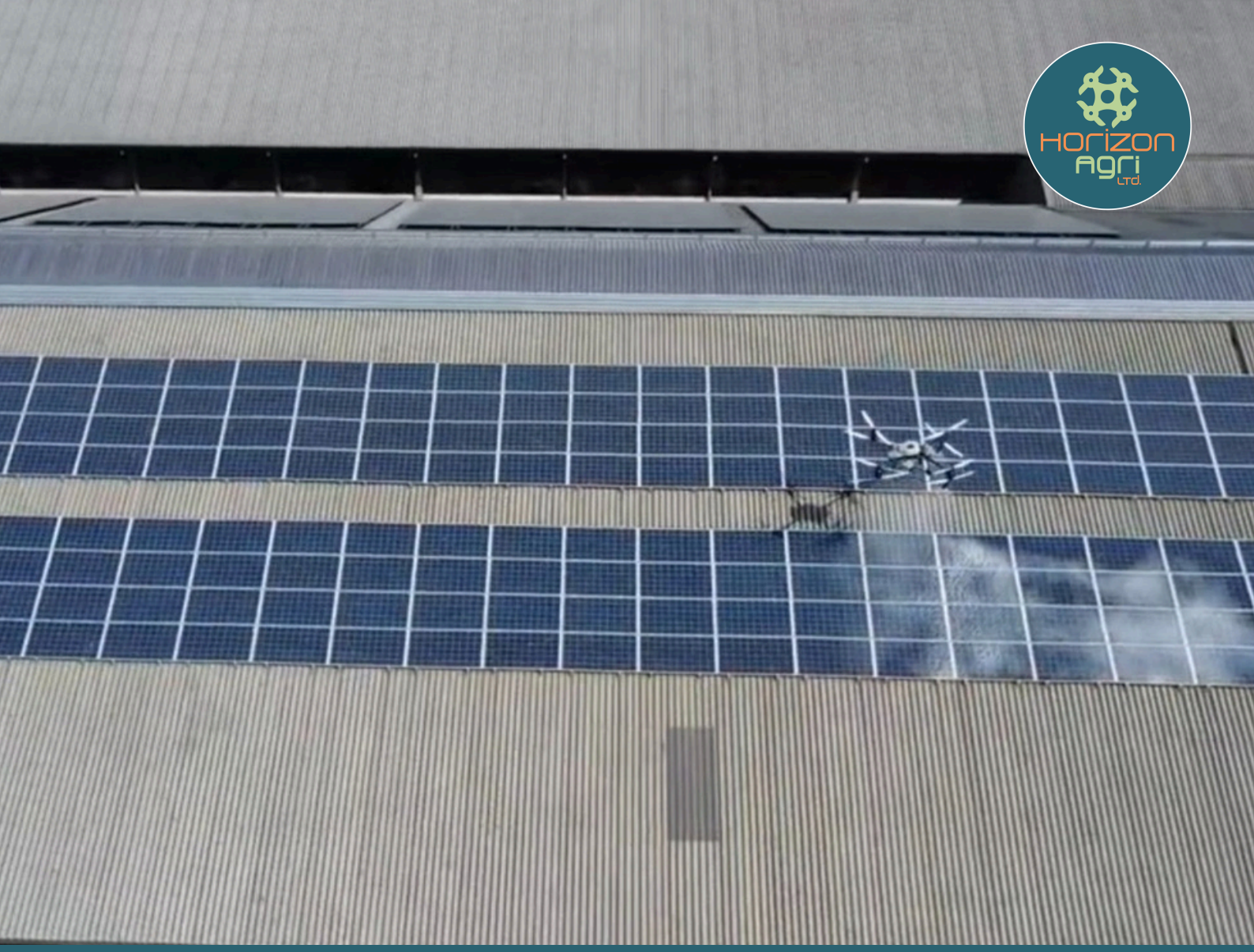


HORIZON AGRI LTD / SOLAR PERFORMANCE CASE STUDY

Initial 12% uplift in solar generation

following drone cleaning

TREVEALE FARM | CORNWALL | 2026

Controlled on-site comparison of non-contact solar cleaning and subsequent electricity generation performance.

horizonagri.co.uk

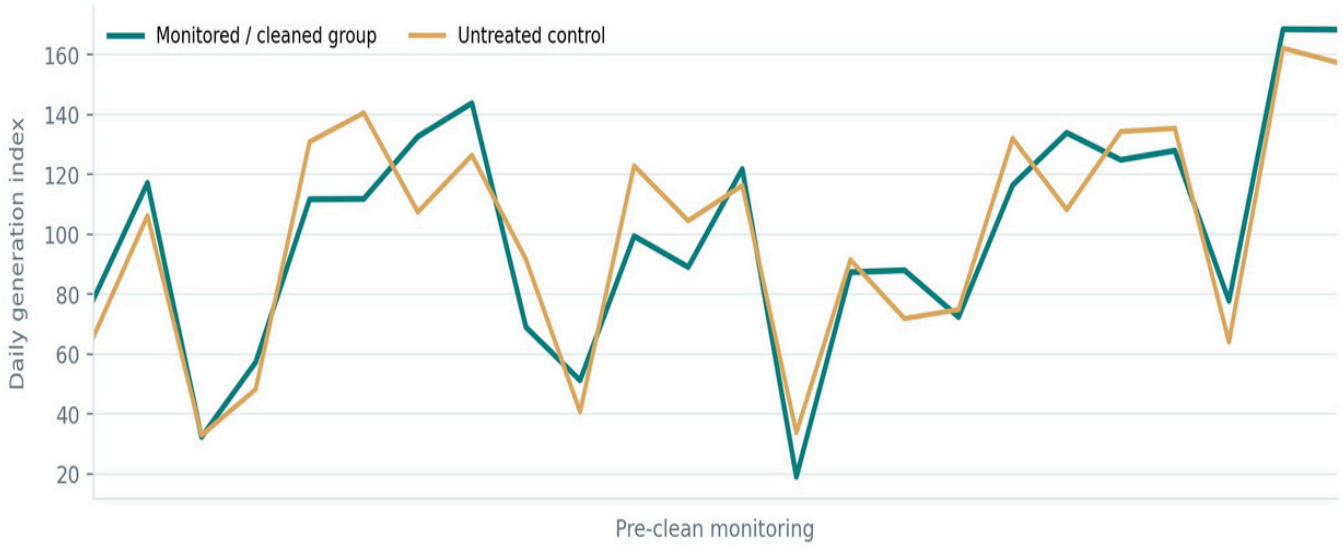
Pre-clean performance

Independent solar groups. Same farm. Consistent generation patterns.

PRE-CLEAN	CONSISTENT	2 GROUPS
BASELINE	GENERATION PATTERNS	CLEANED / CONTROL

Before cleaning, the two solar groups followed consistent daily generation patterns under the same farm conditions. Each was measured against its own pre-clean average, providing a strong baseline for assessing the improvement after cleaning.

HOW THE TWO GROUPS TRACKED BEFORE CLEANING



THE METHOD

For each period, we calculated how much the cleaned group changed against its own baseline, then subtracted the control group's percentage change. This removes the need to compare capacities or raw kWh between installations.

An immediate, measurable gain

Day-based monitoring from the initial clean

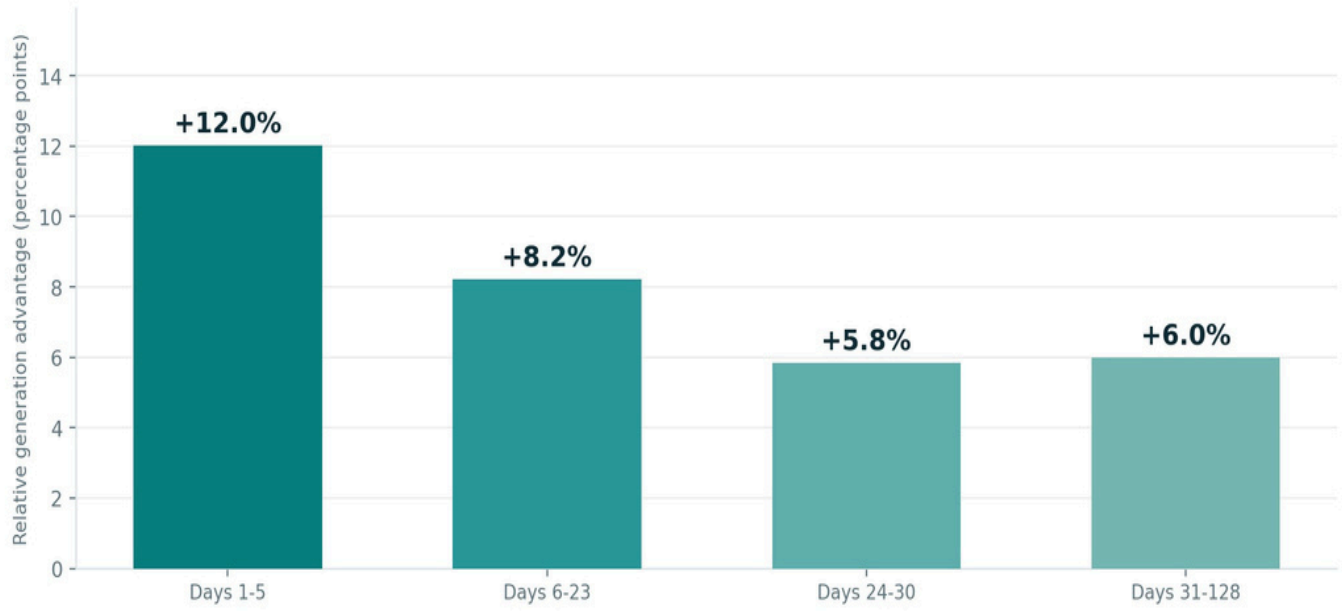
+12.0%

INITIAL 5-DAY ADVANTAGE

+6.0%

LONGER-TERM AVERAGE

A strong initial 12% generation advantage eased over the first 30 days, reaching around 6% by the end of that period. The monitored advantage then averaged 6% over the following 98 days.



WHY MIGHT THE INITIAL ADVANTAGE REDUCE?

Treveale is an active farm. Dry spells can increase airborne dust, while routine yard traffic, feeding and bedding machinery may add further contamination. Renewed soiling is a plausible reason for the early reduction, although the monitoring alone cannot establish a single cause.

Bars show average relative differences, not constant daily output. The comparison excludes four days affected by unrelated equipment interruption.

Designed for agricultural roofs

Biodegradable, solar-safe cleaning, delivered without roof access

NON-CONTACT
NO BRUSHES ON GLASS

NO SCAFFOLDING
NO ROOFTOP OPERATIVES

~2 HOURS
EST. FOR ALL 250 kW



THE HORIZON AGRI APPROACH

A DJI Agras T50 heavy-lift drone applies a specialist biodegradable, solar-safe cleaning solution directly to the panels. The method uses no brushes and avoids physical contact with the panel surfaces.

The drone reaches roof-mounted solar arrays without scaffolding, cherry pickers or operatives accessing the roof. This helps reduce disruption to a working farm and avoids unnecessary work at height.
The entire 250 kW installation is estimated to take approximately two hours to clean, minimising disruption to normal farm operations.

The value across a 250 kW farm

Illustrative savings if the uplift were achieved on the full installation

If extra solar generation is used on the farm rather than exported, it can replace electricity otherwise purchased from the grid. The financial value depends on the farm's actual unit charge and its daytime electricity demand.

ILLUSTRATIVE ANNUALISED CALCULATION

Treveale farm solar capacity	**250 kW**
Modelled annual generation	**250,000 kWh**
Illustrative site-wide uplift	**6%**
Additional electricity generated	**15,000 kWh / year**
Reference electricity cost	**28.59p / kWh**

ILLUSTRATIVE ELECTRICITY VALUE / YEAR

£4,289

ABOUT THE TARIFF

Cornwall-specific commercial electricity price data was not available as a reliable published average. The illustration uses the 2026 UK small-business electricity benchmark of 28.59p/kWh. Actual electricity rates may differ.

This scenario assumes 1,000 kWh per kW annually and that all extra solar power is used on the farm. The measured trial covered 50 kW; applying the 6% uplift to all 250 kW illustrates the potential site-wide opportunity, not a verified whole-site result. The reference tariff includes fixed costs, so actual savings depend on the actual variable import rate.

Source

DESNZ, Gas and electricity prices in the non-domestic sector, Tables 3.4.1–3.4.2 (2026).