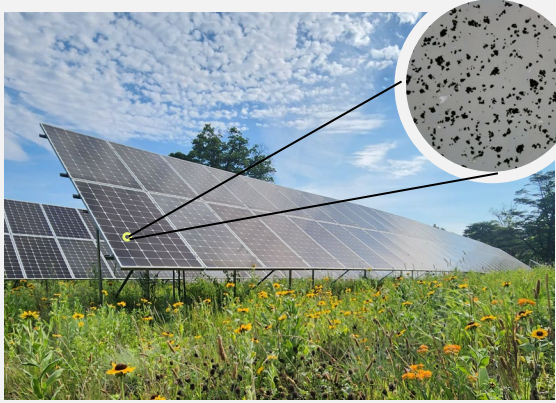# The problem with dirty solar farms

Solar panels get dirty and less efficient, even in regions with frequent rain.

Cleanings are necessary, but expensive, and financial margins are thin.

It is critical that solar farms are cleaned at the right time – optimizing the tradeoff between revenue losses and cleaning costs.

Current solutions suffer from reliability and scalability issues, meaning that cleanings are not being optimally scheduled. Below is the positive impact (20% profit gain) from *optimized cleanings*.
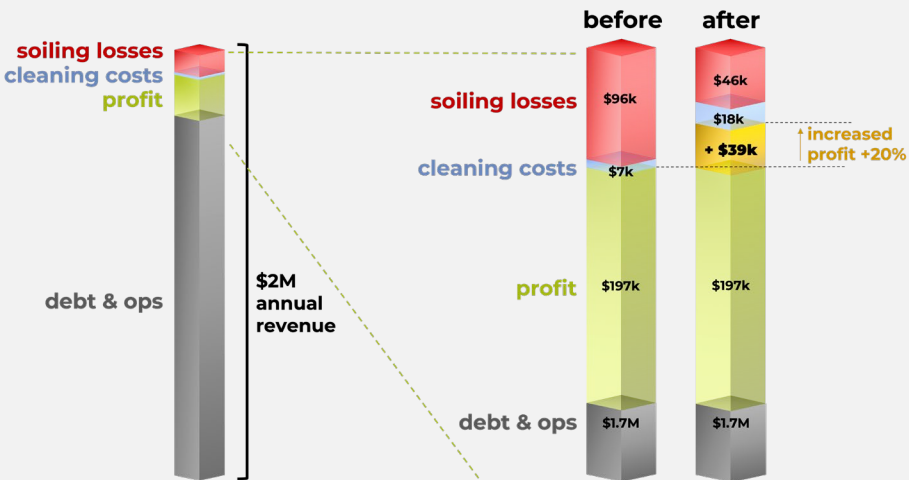
Solar Unsoiled

Software platform optimizing solar farm cleaning schedules
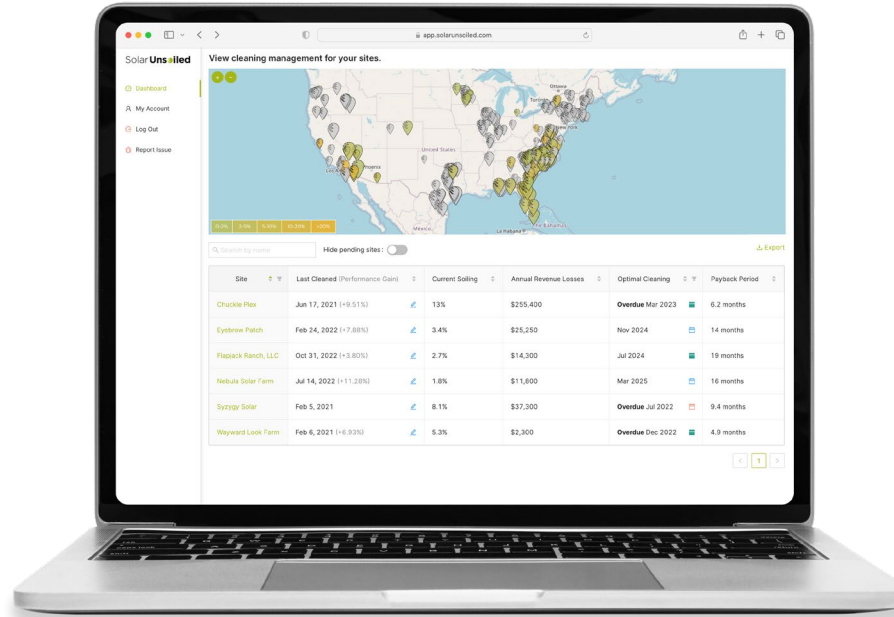
Our software platform provides optimized cleaning schedules *for each solar farm in a fleet*. Our comprehensive method combines:

- Predictive soiling models tuned to each site with the following

- Machine learning methods to analyze customer site data

- A handheld microscope with a digital camera. These are provided to technicians to image soiling on solar panels while on-site for other maintenance

This technology was developed over 8+ years of research. Solar Unsoiled's CEO did his PhD on soiling at Duke University and the team has transitioned this research into technology & a software solution to proactively mitigate soiling losses. We have applied and validated our tech at >200 solar farms (1.2 Gigawatts).

Benefit to our customers:

- Accurate current and future soiling losses for each site. Our microscope method is accurate to ±1.3% soiling loss.

- Ability to prioritize, budget, and schedule cleanings months or years ahead of time – transitioning the industry to *proactive* mitigation

- Reduces technician and performance engineering time compared to traditional solutions