



a conversation with **HAPCO**

Why are Solar Poles considered the ideal choice for lighting applications?



As Landscape Architects and Specifiers look to aggressively pursue designs based upon sustainable principles, solar powered fixtures operating on 100% renewable energy are increasingly recognized as the environmentally responsible choice in landscape lighting. With no

invasive trenching or cabling, fast installations, and no future electric costs, solar poles provide a quick return on investment and years of continued cost savings. They are ideal for use in a diverse range of applications, including Street and Roadway projects, Commercial Developments, Parks, Pathways, and School and College Campuses.

What has historically limited the implementation of Solar Lighting?

Slow adoption of solar lighting into project specifications can be attributed to two major categories - poor aesthetics and limitations in system size and performance. Most solar poles are designed with flat solar panels installed at the top of the pole. Along with poor aesthetics, power generation from flat panels are limited by size constraints, with oversized panels creating additional pole loading and high wind risks. Another limitation has been

the prevalent use of lead or hybrid lithium batteries. These battery options contain lower charge densities (W/kg), requiring larger and heavier footprints which are impossible to install safely hidden within the pole structure. The performance necessary for sustained power also placed severe restrictions on fixture wattage, run times, and additional accessories requiring power.

What makes the Hapco Solar Pole different?

The Hapco Solar Pole overcomes previous limitations by providing the industry's most technologically advanced solar lighting pole. Utilizing cylindrical solar modules that slide over the top of the aluminum pole shaft, our solar pole's 360-degree coverage provides superior power generation through the full use of available sunlight. Highly efficient monocrystalline solar cells are laminated directly onto the inside of borosilicate glass tubes, creating individual solar modules that can be used in combination to create power generation that is unequalled in flat panel alternatives. The modules blend seamlessly into the aluminum pole, creating far better aesthetics that mimic the preferred look of standard lighting poles. The system also incorporates a Nickel Manganese Cobalt (NMC) lithium battery that utilizes the same technology as seen in today's electric vehicles. Higher turnaround efficiency, depth of discharge tolerance, and lifetime discharge cycles contribute more power, better performance, and significantly longer battery life.

Why is 4G Connectivity of Solar Poles important?

The Hapco Solar Pole is the only option

on the market that has remote connectivity via 4G. Competitor's systems are either connected by Bluetooth, requiring close proximity in order to connect, or LoRa, which offers extremely limited data transfer. Connectivity with the Hapco Solar Pole provides remote performance monitoring and over-the-air updates for easy asset management, maximum system performance, and continuous technology enhancements.

Why are Hapco Solar Poles the "SMART" choice in solar lighting?

"Smart" describes every aspect of the Hapco Solar Pole. Containing built-in GPS and smart controlled algorithms, the solar control unit automatically adapts itself based on the solar and weather tendencies of the installation location. The system begins to monitor the power in and power out of the unit as soon as the pole is installed, combining real-time weather forecasts to automatically adjust output for maximum performance. Because the Hapco Solar Pole is able to predict and adapt its power usage, it is capable of 30+ days of autonomy. And unlike many of our competitors, our smart system is fixture independent, allowing specifiers to pair the

Hapco Solar Pole with their choice of luminaire. Additionally, with our capacity to generate and store far more energy, specifiers can confidently add the accessories used by today's Smart Cities - wi-fi hotspots, cameras, sensors and more, making the Hapco Solar Pole the truly SMART choice in solar lighting.

