



CUSTOM RENEWABLE ENERGY SOLUTIONS

Solar Powered Street Lights Factsheet

*Driven by Energy...*



## Solar Powered Street Lights - Managing an alternative and clean power solution

Enertia Engineering Ltd. Manufactures the first fully-integrated Solar Powered LED Street Light. Our innovative design has no external solar array or battery box. We utilize the industry-standard Cobra Head Street Light in both the ESS (Small) and ESM (Medium) size.



Every year, millions of street lights are installed worldwide. The demand for street lighting is creating a significant impact on the available electrical generation. One solution is to remove the lighting from the grid using solar power. This concept is a viable, proven alternative to traditional lighting methods.

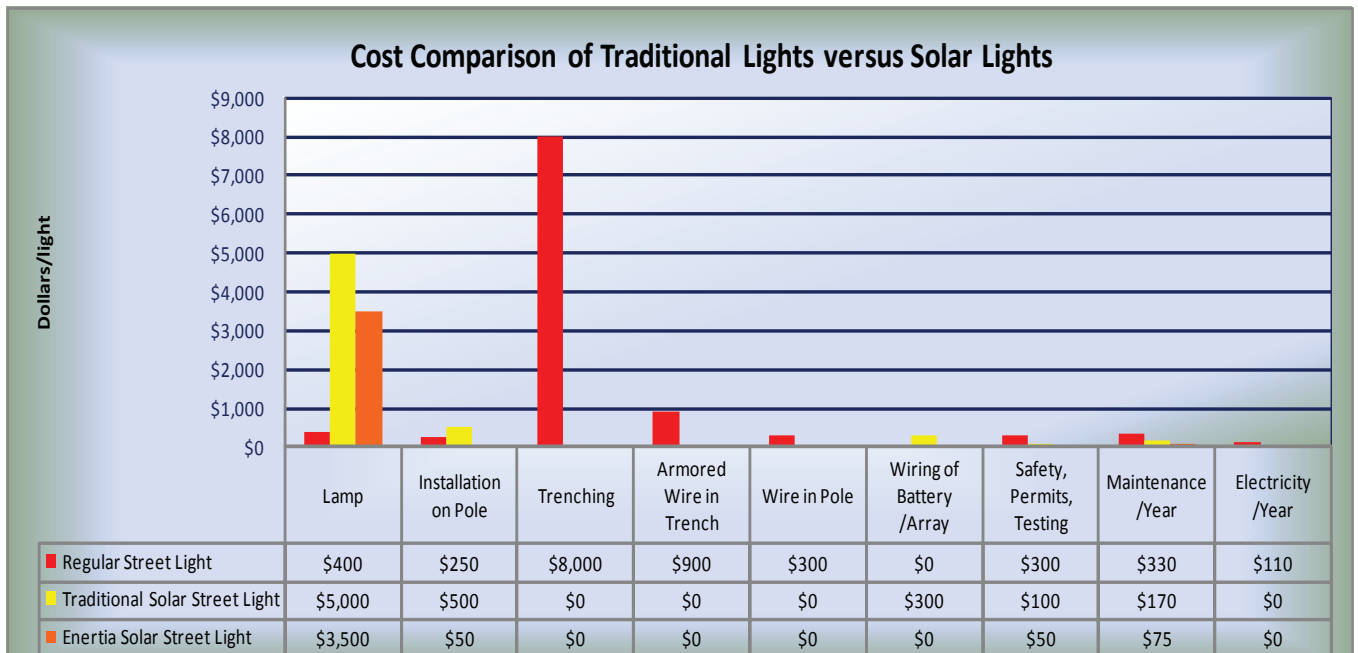
A comparison table between regular street light, traditional solar street light and Enertia solar street light is presented in the table below. Red means disadvantages and orange means advantages.

Regular Street Light	Traditional Solar Street Light	Energia Solar Street Light
		
Uses standard size/connection	Uses standard size/connection	Uses standard size/connection
250 W high pressure sodium lamp	120 W LED array	38 W, 32-Bulb ultra-high efficient LEDs
2700 Lumens	2800 Lumens	3440 Lumens
Photo-sensor or wire control	Photo-sensor	Photo-sensor
No battery	External battery (3+ nights reserve)	Internal battery (3+ nights reserve)
No solar array	Separately installed solar array	Integrated solar array
Requires Electricity	Solar powered	Solar powered
Works only when grid is energized	Works during power outages	Works during power outages
Requires expensive trenching for wire	No trenching	No trenching
Wire in the ground	No wire in ground	No wire in ground
Wire in the pole	Wire in upper part of pole	No wire in pole
Significant resources to install	Specialized crew to install	Simple install
Special crews for safe installation	Safe to install	Safe to install
Attracts insects	Does not attract insects	Does not attract insects

Recent advances in high performance LED lights, solar panels, and batteries, now make it easier and more-cost effective to consider solar powered lighting.

It is less expensive to purchase and install solar lights than traditional street lights.

It is less expensive to operate and maintain solar lights than traditional street lights.



## Total Cost Comparison of Traditional Lights versus Solar Lights



We utilize the world's most popular street light housing for our solar light. The battery is located inside the housing, and the panel is affixed directly to its surface.

### Enertia Solar Street Light Specification\*

Component/Function	ESS Enertia Solar Street Light (Small)	ESM Enertia Solar Street Light (Medium)
Housing	Cobra Head ESS	Cobra Head ESM
Connection Type	Standard Cobra Head Pole Connection	Standard Cobra Head Pole Connection
Lamp	19 W, 16-Bulb ultra-high efficient LEDs	38 W, 32-Bulb ultra-high efficient LEDs
Lumens	1720 Lumens	3440 Lumens
Lens	Sag tempered-glass lens	Sag tempered-glass lens
Photo-Sensor	12 V, time-adjustable	12 V, time-adjustable
Battery Type	55AH	55AH
Battery Safety	Meets DOT 49 CFR Sec.173.159	Meets DOT 49 CFR Sec.173.159
Battery Shipping Restrictions	No restrictions. Safe for airplane. Sealed	No restrictions. Safe for airplane. Sealed
Solar Array	2 X 15 W, military spec.	2 X 15 W, military spec.
Light Dimensions WxHxD (mm)	346 x 267 x 787	419 x 302 x 940
Box (Packed) Dimensions WxHxD (mm)	375 x 300 x 825	450 x 325 x 975
Battery Weight (Kg)	20	24
Light Weight (Kg)	7	9
Box (Packed) Weight (Kg)	32	38
Warranty	1 year	1 year

\*Information subject to change without notice.

# Benefits of Eertia Solar Street Lighting

**Lower Initial Cost** – It is less expensive to purchase and install a solar powered street light than a traditional street light.

**Lower Operation Cost** – It is less expensive to operate a solar powered street light than a traditional street light.

**Compact Design** - Our design and technology implementation have been driven by our desire to eliminate the need for bulky external battery boxes and external solar panels and achieve a FULLY INTEGRATED Solar Powered Street Light. To achieve this, we have designed our system to have maximum light output with minimum power consumption using our proprietary high efficiency solar cells located directly on the light fixture.

**Reduced Damage/Theft** - By locating the solar technology directly on the light fixture and placing the battery within the light fixture, the risk of damage, theft or tampering is greatly reduced. There are no wires in the street pole, which means that the wire itself (which exists in regular street lights) can't be stolen and sold for scrap.

**Ruggedized Technology** – The solar powered street light uses a military-grade solar technology (not a regular silicon solar panel) that does not need to be aimed directly at the sun. In addition, there is only a minimal reduction in energy conversion even when it is cloudy.

**Insect Swarms** – The solar powered street light uses LED lighting which does not produce Infrared light, and therefore will not attract insects. (No more moths and other flying insects swarming around the light.)

**Improved Safety** – The solar powered street light does not require connection to an electrical grid. It is safer and easier to install. In the event of a power outage, the light remains on. This reduces the chance of car accidents and the constant light deters theft/vandalism from nearby businesses.

**Anywhere/anytime** – The solar powered street light can be used in any location. Since no electrical grid is required, it can be installed on buildings, in parking lots, in remote locations simply by hanging it on a pole.

**Faster Installation** – Since you don't need to trench power lines to the pole, run wires up the pole, connect wires to an electrical grid, or hard wire the street light, the installation is significantly faster. In fact, it is so easy, it can be installed on the pole before its erected, and thereby reducing a step completely from the process.

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