

CAMBRIA  
DARK SKIES CERTIFICATION  
INITIATIVE

# WHAT IS DARK SKIES?

- A global effort to protect the night sky against light pollution for present and future generations.
- Led by the International Dark-Sky Association (IDA).
- IDA's International Dark Sky Places conservation program recognizes and promotes stewardship of the night sky.
- Beautify Cambria is pursuing certification as an International Dark Sky Community.

# WHAT'S INVOLVED?

## CONSERVATION

- Protect public and private lands from light pollution.

## DARK SKY FRIENDLY LIGHTING

- Use light that does not pollute our natural night skies.

# WHAT IS LIGHT POLLUTION?

GLARE



LIGHT TRESPASS



OVERLIGHTING



SKY GLOW



# REAL-WORLD EXAMPLES

## SMART LIGHTING



## WASTEFUL LIGHTING



# STREET LIGHTING



# WHY ARE DARK SKIES IMPORTANT?

# TOP 5 REASONS TO SUPPORT DARK SKIES

① ENERGY

③ HEALTH

⑤ HERITAGE

② SAFETY

④ WILDLIFE



# COSTS OF LIGHT POLLUTION

- U.S. outdoor lighting uses an average **120 terawatt-hours** of energy, mostly to illuminate streets and parking lots -- enough energy to meet New York City's electricity needs for two years!
- At least 30% of outdoor lighting is wasted, mostly by unshielded lights. That adds up to **\$3.3 billion** and **21 million tons of CO<sub>2</sub>** per year! To offset that CO<sub>2</sub> we'd have to plant 875 million trees annually.
- Smart outdoor lighting could cut energy use by **60–70%**, **save billions of dollars** and **cut carbon emissions**.

# NEW TECHNOLOGIES CONSERVE ENERGY

- LEDs and CFLs can help reduce energy use and protect the environment, but **only warm-white bulbs** should be used.
- Dimmers, motion sensors and timers can help to reduce average illumination levels and **save even more** energy.
- Shielded fixtures provide the **same ground illumination** as unshielded ones, **with less energy and cost**.

# NO EVIDENCE LIGHTING IMPROVES SECURITY

- Data on traffic collisions and crime in 62 U.K. communities found **that lighting had no effect**, whether off completely, dimmed, off at certain hours, or replaced with low-power LED lamps.
- A 1997 U.S. study concluded, “We can have **very little confidence** that improved lighting prevents crime.”
- Bad outdoor lighting can decrease safety by making targets easier to see. A Chicago study showed a correlation between **brightly lit alleyways and increased crime**.

“Local authorities can safely reduce street lighting saving both costs and energy ... without necessarily impacting negatively upon road traffic collisions and crime.”

*Journal of Epidemiology & Community Health*

# NEGATIVE EFFECTS ON HUMAN HEALTH

- Research suggests that artificial light at night can **increase risks** for obesity, depression, sleep disorders, diabetes, breast cancer and more.
- Artificial light at night can **suppress melatonin** production. Melatonin has antioxidant properties, induces sleep, boosts the immune system, lowers cholesterol, and helps the functioning of the thyroid, pancreas, ovaries, testes and adrenal glands.
- Exposure to blue light at night is **particularly harmful**. Unfortunately, most LEDs used for outdoor lighting create abundant blue light.

## DRASTIC EFFECT ON ECOSYSTEMS

- Light pollution **radically alters** the nighttime environment for nocturnal animals that use darkness as cover.
- Glare from artificial lights can impact wetland habitats, **disrupt** amphibian reproduction and reduce populations.
- Birds that migrate or hunt at night navigate by moonlight and starlight. Artificial light can cause them to **wander off course**. Lighting also interferes with their sleep.
- Artificial lights can create a **fatal attraction** for insects. Declining insect populations negatively impact all species that rely on insects for food or pollination.

# PRESERVING A PRECIOUS RESOURCE

- Until recently, for all of human history, our ancestors experienced a **sky brimming with stars** – a night sky that inspired science, religion, philosophy, art and literature.
- The natural night sky is **our common heritage**, yet it's becoming unknown to our children. Van Gogh painted his famous “Starry Night” in Saint Rémy, France, in 1889. Now, the Milky Way can no longer be seen from there.
- Experiencing the night sky **provides perspective**, inspiration, and leads us to reflect on our humanity and place in the universe.

# IMPLEMENTATION

# PROGRAM GOALS

- Build awareness.
- Foster community cooperation.
- Help pay for lighting fixtures or shields.
- Achieve IDA certification & international recognition.
- Position Cambria as a unique Dark Sky community.
- Encourage overnight visits by astrophotographers & hobby astronomers.



# DARK SKIES IN PRACTICE

## CODES

- SLO County lighting code is largely Dark Skies-compliant.
- Needs a single update to include requirement for warmer spectrum night lighting.

## LIGHTING

- Code update would apply to new installations. Retrofits of existing installations are encouraged.
- Shields for streetlights are available from every streetlight manufacturer.

# CERTIFICATION REQUIREMENTS

- General Plan amendment to update county lighting code.
- Shield outdoor lighting over 1200 lumens to focus light downward & prevent light trespass.
- Use lighting with a correlated color temperature (CCT) below 3000K.
- Limit total amount of unshielded lighting.
- Minimum 10 projects built under the lighting code.
- Two educational Dark Skies events per year.
- Maintain log of sky brightness.
- Submit an annual report.

# WHAT WE'VE DONE SO FAR

- Worked with SLO County to update lighting code.
- Secured widespread community support.
- Secured letters from local organizations in support of Cambria's application.
- Held regular Dark Sky events that are popular community activities that educate, build support and foster community consensus:
  - Evening with the Stars, October
  - Binocular Walk, February
  - Meteor Party, August
  - Additional events during astronomical phenomena of high interest

# HOW YOU CAN HELP

- 1 Recognize Beautify Cambria's Dark Skies Initiative as an ongoing community project.
- 2 Provide a letter to IDA in support of Cambria's application to be an International Dark Sky Community.
- 3 Pledge to make Cambria street lights and CCSD facility lights Dark Sky compliant.

THANK YOU!