

# LIGHT POLLUTION COSTS MONEY AND WASTES RESOURCES

## HOW DOES ENERGY WASTE HARM THE ENVIRONMENT?

Excess lighting pumps millions of tons of carbon into our atmosphere every year, and also causes light pollution.

Light pollution:

- Increases greenhouse gas emissions
- Contributes to climate change
- Increases our energy dependence

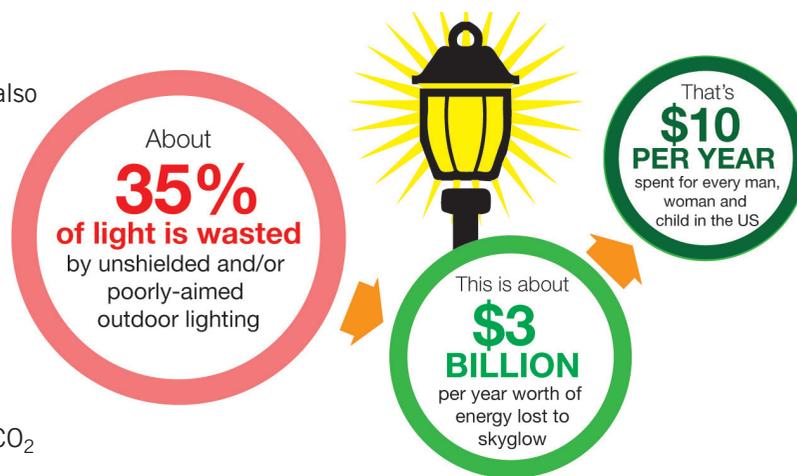
## WHAT ABOUT OUR CARBON FOOTPRINT?

In the U.S. alone, about 15 million tons of CO<sub>2</sub> are emitted each year to power residential outdoor lighting. That equals the emissions of about 3 million passenger cars and adds up to 40,000 tons per day. To offset all that carbon dioxide, we'd need to plant about 600 million trees annually!



## WHAT DOES LIGHT POLLUTION COST?

About \$3 billion dollars per year of energy is lost to bad lighting. This is about \$10 a year for every man, woman, and child in the U.S.



## HOW MUCH ENERGY AM I WASTING?

The average house with poorly designed outdoor lighting wastes 0.5 kilowatt-hours (kWh) per night. A kilowatt-hour is a unit of energy equivalent to one kilowatt of power for an hour. It's enough energy to power a 50-inch plasma TV for one hour or run one load in your dishwasher!



It just takes small changes to save energy, money and our night skies. You can make a difference today.

Keep light on the ground



## ENERGY EFFICIENCY SOLUTIONS

Shielding outdoor lighting saves energy and money, reduces our carbon footprint and helps protect the natural nighttime environment. The solutions are easy. Work with your neighbors and local government to keep the light on the ground and the skies natural. It's a win-win for everyone. You save money while preserving a valuable natural resource.

Tips to help you conserve energy and use light efficiently:

- Install quality outdoor lighting to cut energy use by 60-70%, save money and cut carbon emissions.
- Fully shield all outdoor lighting — light should go down on the ground where it's needed, not up into the sky.
- Be aware that fully shielded fixtures can provide the same level of illumination as unshielded fixtures, but with lower cost and less energy waste.
- Turn off indoor lights in office buildings or homes when not in use to save money and energy.

## Good vs. Bad Lighting

This photo (right) shows examples of good and poor lighting design. The unshielded light fixture on the left throws light into the sky and creates glare, impairing visibility. The shielded light fixture on the right directs light to the ground where it is needed and does not create lighting pollution. To learn about light fixtures that are environmentally friendly, energy efficient and certified with the IDA Fixture Seal of Approval, visit [darksky.org](http://darksky.org).



Visit [darksky.org](http://darksky.org) for more information.

Energy use and its impact on our environment has become one of the top concerns facing humanity.



Poorly designed outdoor lighting wastes energy by not being shielded, emitting more light than necessary or shining when and where it's not needed. Wasting energy in this way has huge economic and environmental consequences.

Leaving lights on overnight – such as those in office buildings – wastes energy and contributes to the general skyglow of the city. Dark sky friendly lighting does not mean “no light.” It means using the light that you need for a specific task in the most efficient manner possible.

“We can create a more sustainable, cleaner and safer world by making wiser energy choices.”

– Robert Alan Silverstein,  
children's science book author



## WHY DARK SKIES?

The need to protect and restore the natural nighttime environment is more urgent than ever. Light pollution, defined as light where it is not wanted or needed, affects our health, the environment, wildlife, and our ability to find awe in the natural night. Research indicates that light pollution is increasing at a global average rate of two percent per year.

## ABOUT IDA

The International Dark-Sky Association, a 501(c)(3) nonprofit organization based in Tucson, Arizona, is dedicated to preserving and protecting the natural nighttime environment.



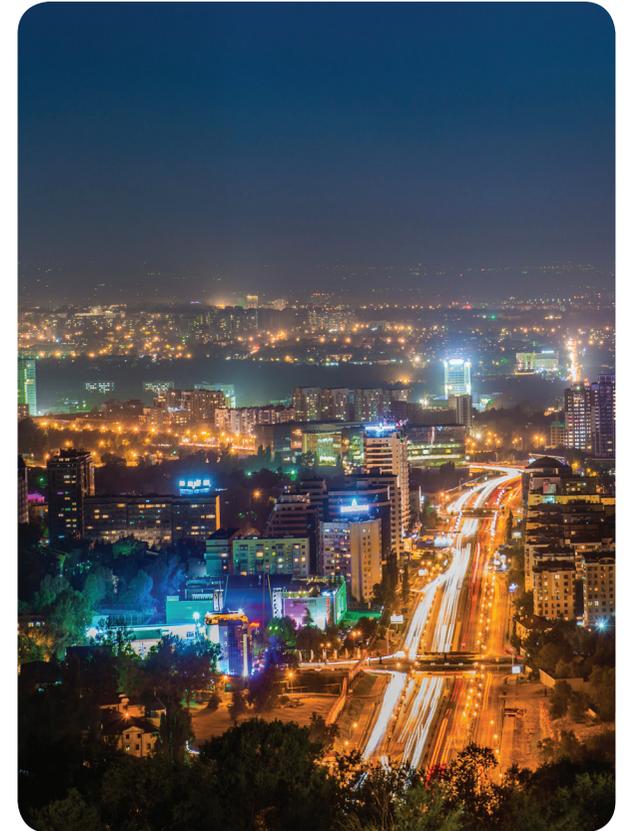
## HELP US PROTECT THE NIGHT

Our work is made possible by support from IDA members. Become a member and support our work in protecting the natural nighttime environment. Please join us today!

**DARK  
SKY.  
ORG**

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## Light Pollution Wastes Energy and Money



INTERNATIONAL DARK-SKY ASSOCIATION