

# Legal recognition of light pollution as an environmental problem

The **main goal** is to identify an adequate regulatory framework for light pollution mitigation and to propose regulatory solutions to prevent and mitigate its environmental impacts

## What?

Light pollution is a transboundary environmental problem caused by increased, unwanted or misdirected artificial light at night (ALAN)



## Why?

Light pollution is a concern of many fronts:



The **most adverse impacts** of light pollution are faced by the environment, biodiversity, habitats, and human health. More than 70% of living organisms are nocturnal. The prolongation of the day to the nighttime affects the nocturnal biodiversity. For e.g., light pollution dramatically affects the reproduction of sea turtles. When little turtles are hatched, they follow the Moonlight or starlight to get to the water. Increased illumination on the coastline disorientates them. Moreover, many efforts to increase connectivity between habitats, such as Natura 2000, are reduced by fragmentation created by light pollution. Additionally, increased nighttime illumination contributes to climate change and energy efficiency problems.

## Triggers for LP regulations



### Energy efficiency

From October 2022, >600 local governments in Europe have imposed ALAN reduction measures: complete switch-off & curfews



### Environmental concerns

Adoption of legal and policy documents that introduced environmental LP reduction measures



### Astronomy & Space Sustainability

Future space exploration and protection of the low-earth orbital environment; protection of outer space as an environment

## Classification of regulatory approaches

1

### Binding vs. Non-Binding Instruments

2

### Levels of implementation (LP is addressed at):

1. International level
2. EU-level
3. National level, incl. local level

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### Areas of implementation:

- A. **Energy Efficiency** - Reduction of light to save energy
- B. **Urban Planning** - Amount of light indicated per urban zone (residential, commercial, etc.)
- C. **Environmental Protection** - Light pollution - environmental pollution
- D. **Protection of Astronomy & Observatories** - Dark zones to protect astronomical observation
- E. **Public Procurement** - Minimizing light emissions for future projects
- F. **Protection of Indigenous Communities** - Dark sky zones to allow traditional activities
- G. **Cultural Heritage** - Dark sky - the common heritage of humankind
- H. **Space Sustainability** - Dark skies for future space exploration; protection of space environment
- I. **Dark sky protection/light pollution mitigation** - Various aspects of light pollution reduction