

Briefing Note – Artificial Light at Night: an environmental pollutant requiring legislative recognition.

Objective: To recognise artificial light at night as an environmental pollutant and manage its inappropriate or excessive use

1. What is Light Pollution?

Light pollution is a by-product of unnecessary, excessive, or misdirected artificial light at night. It is recognised as the fastest growing pollutant globally, increasing at a rate of 10% annually.

Light pollution is a side effect of industrial civilisation. Its sources include building exterior and interior lighting, advertising, commercial properties, offices, factories, streetlights, and illuminated sporting venues. Much outdoor lighting used at night is inefficient, overly bright, poorly targeted, improperly shielded, and, in many cases, completely unnecessary. This excessive light spills into the sky, rather than focusing it on the actual objects and areas that people want or need illuminated. The economic costs of this wasted light include increased greenhouse gas emissions.

2. The impact of light pollution

A growing body of evidence links the brightening of the night sky directly to demonstrable negative impacts including:

- Substantial energy waste through increasing energy consumption and associated greenhouse gas emissions. In the United States 35% of light is wasted by unshielded or poorly aimed lights, costing AUD\$4 billion a year in energy lost; 19 Million tonnes of CO₂ is emitted each year to power wasted light.
- Public health impacts including sleep and metabolic disorders, increased rates of depression, obesity, heart disease and some cancers.
- Ecological impacts on plants and animals including, the masking and disruption of natural light cycles; shifts in patterns of navigation and movement, reductions in reproduction and foraging. Each of these can affect the health and fitness of plants and animals and may lead to biodiversity declines.
- Reduction in the visibility of the stars and planets that make up the night sky, which directly affects Western and Indigenous Astronomy including loss of cultural connection.

The critical challenge in addressing light pollution is the lack of any comprehensive legislation.

Light is currently not explicitly recognised as a pollutant under any State or Federal legislation.

3. The problem: the absence of comprehensive legislation

Australia has a number of guidelines for addressing light pollution, i.e. the [National Light Pollution Guidelines](#), NSW [Dark Sky Planning Guidelines](#), and the [Australian Standard Control of the Obtrusive Effects of Outdoor Lighting \(AS/NZS 4282\)](#), however not one of these is legally binding nor are they uniformly enforced.

Light pollution was recently recognised in the DCCEEW Discussion Paper on Implementing Australia's Strategy for Nature 2024 – 2030. The specific Target listed as drawing on the Light Pollution Guidelines in planning was, *Increase Australia's circularity rate and reduce pollution and its impacts on biodiversity by 2030.*

4. Proposed actions

The Australasian Dark Sky Alliance (ADSA) request the Federal Government consider the impacts of artificial light at night, an increasing environmental, health and cultural pollutant, and act to

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recognise, educate, legislate and manage this emerging threat to Australia and Australians. We propose the following actions for implementation.

Human health

- Engage with the Department of Health, NHMRC to better understand the impacts of exposure to ALAN on humans and recognise light as a potential carcinogen.

Legislation/guidance

- Have light pollution listed as a Key Threatening Process (KTP) under the EPBC Act
- Have light pollution added as a pollutant to the National Pollutant Inventory (NPI)
- Amend the conceptual framework of the NPI to include **energy** as a pollutant, explicitly recognise light, noise, heat and other forms of radiation.
- Encourage State/Territory counterparts to explicitly recognise light as a pollutant under State/Territory Environmental legislation
- Require light pollution, impacts and management, be incorporated into Australian Standards
- Incorporate light pollution into National Construction Codes.

Mitigation and Management

- Require all new developments under the EPBC Act are consistent with the National Light Pollution Guidelines for Wildlife
- Develop a pathway for all Australian National Parks to gain Dark Sky Place certification (via ADSA/Dark Sky International) to promote regional and Astrotourism and encourage enjoyment of the night sky.
- Support and promote Indigenous Astronomy and recognise the cultural values of the night sky.
- Partner with peak industry bodies to incentivise Australian industry to produce better lighting fixtures for reduction of carbon, budgetary savings, human health, protection of wildlife, and beneficial dark sky outcomes.

Funding opportunities

- Provide funding to:
 - Develop information and training packages in partnership with industry and state governments for Australian Local Government Association on Best Practice Lighting Design and management.
 - Sponsor an awards program to recognise good lighting design.
 - Continue to the sponsorship of the biennial Valuing Darkness Symposium.
 - Fastrack the development of a tool that allows communities to monitor and manage light pollution.

See key supporting documents:

- Attachment A – Supporting Bibliography
- Attachment B – Discussion Paper
- Attachment C – DSI State of the Science report