



**Bryniau Clwyd a
Dyffryn Dyfrdwy**
Clwydian Range
and Dee Valley

Awyr Dywyll
Dark Skies

Conservation and Enhancement of Dark Skies in Wales

Clwydian Range and Dee Valley
National Landscape

David Shiel



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Light Pollution

has increased by around

400%

in the last

25 years



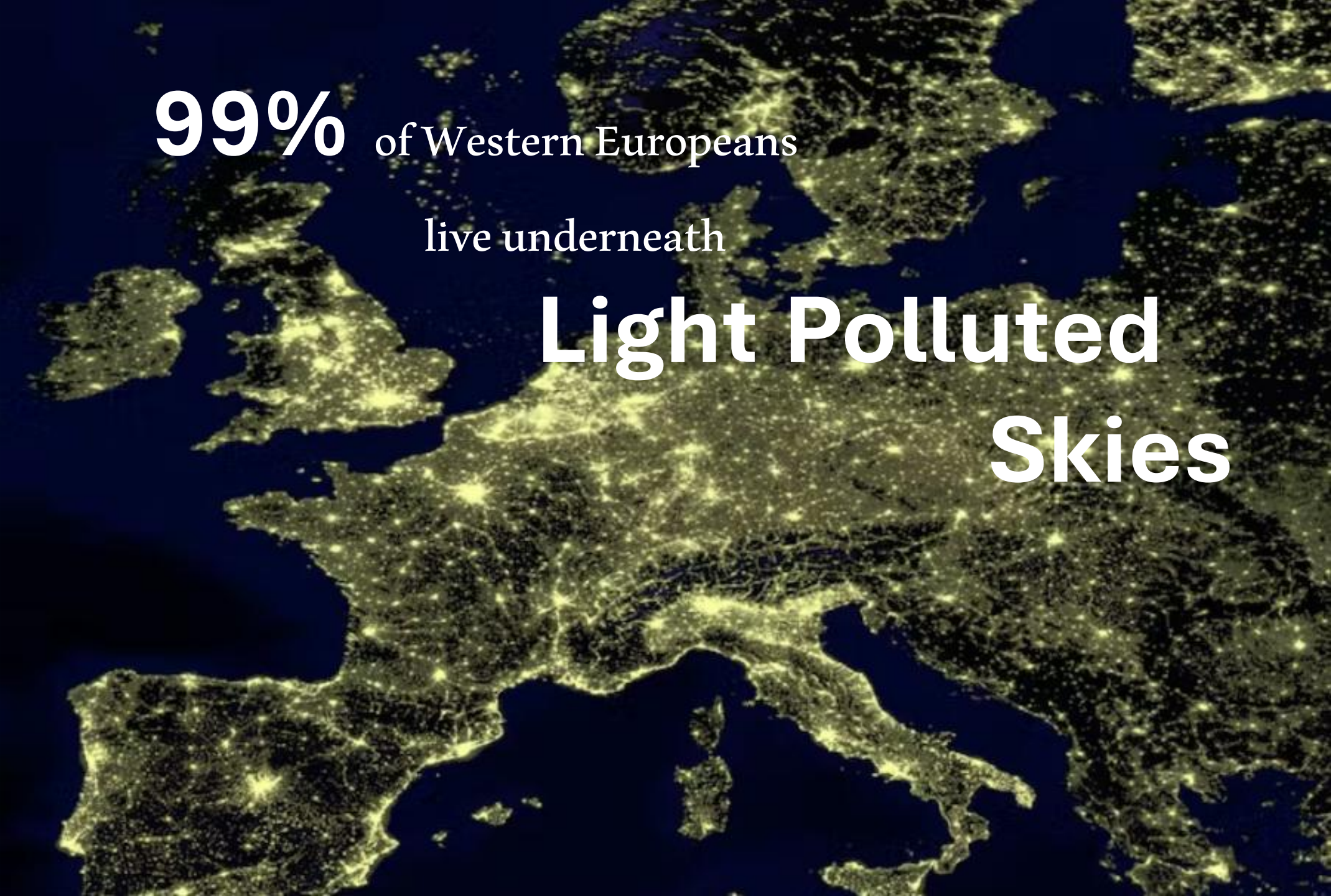
**Bryniau Clwyd a
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Dark Skies

99% of Western Europeans

live underneath

**Light Polluted
Skies**



Light Pollution

is still increasing by around

10% every year

Sky Glow

A night-time photograph of a city skyline, likely Chicago, viewed from an elevated position. The city is illuminated with numerous lights, creating a dense pattern of light trails and starburst effects. The sky is dark, and the lights from the buildings and streets create a bright, glowing effect. The text 'Light Pollution' is overlaid at the top, and '10% every year' is overlaid in the middle. The text 'Sky Glow' is overlaid on the left side of the image.

More than
60% of our

Biodiversity

relies on

**Dark
Skies**



Light Pollution

disrupts

over

65%

of our nighttime pollinators



**Light Pollution
is responsible for
the deaths of
100 billion
insects each
summer**





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UK State of Nature Report 2023



15%

of species
are threatened
with extinction



151

species
already extinct



41%

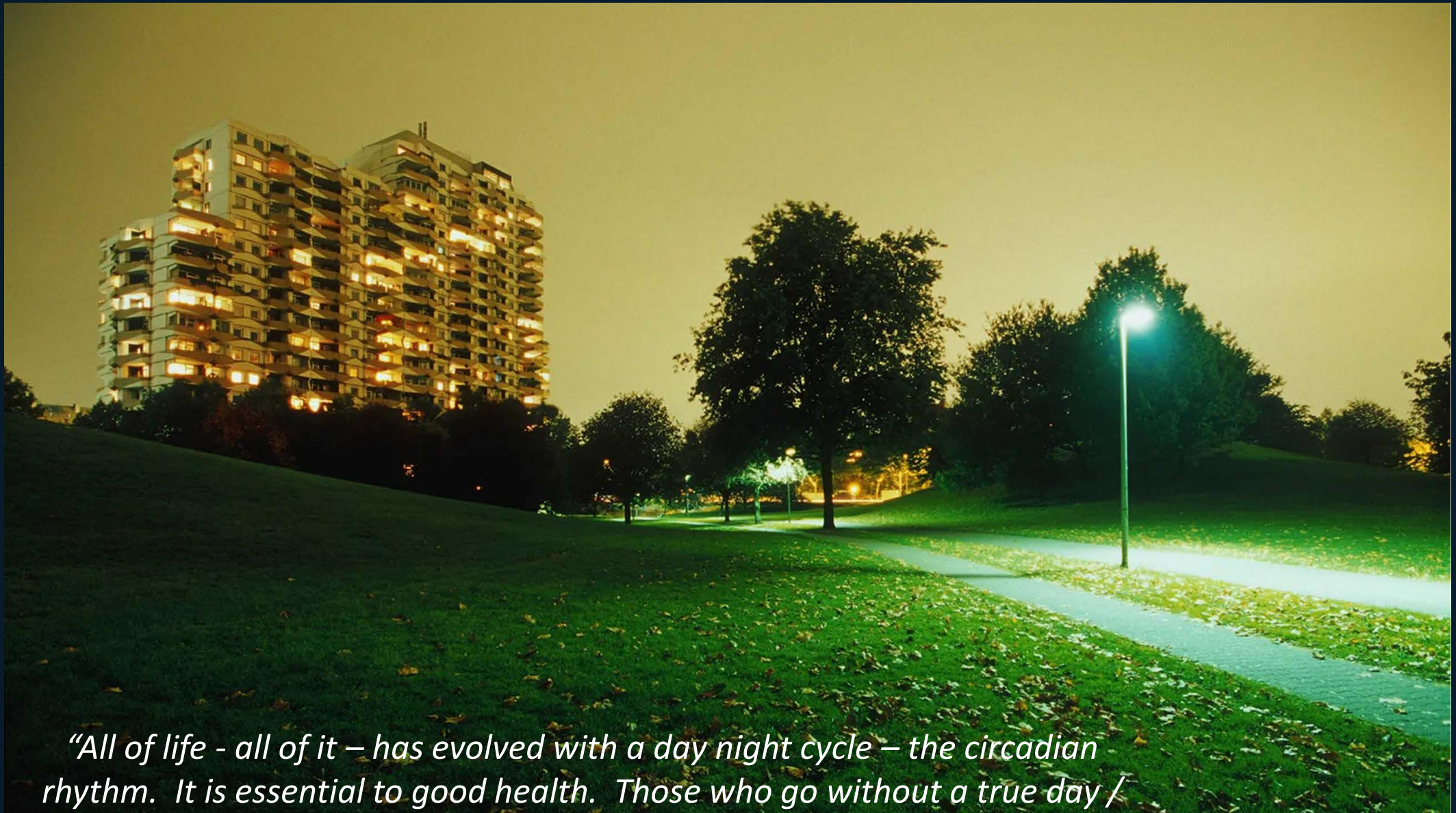
of species
have declined



27%

of species
are found in fewer
places





“All of life - all of it – has evolved with a day night cycle – the circadian rhythm. It is essential to good health. Those who go without a true day / night cycle are adversely impacting their immune systems and that’s not good.”

Dr David Crawford – Co-founder IDA



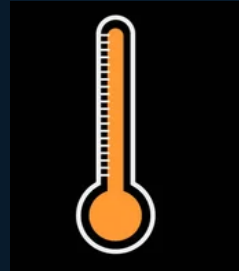
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3 Simple Rules



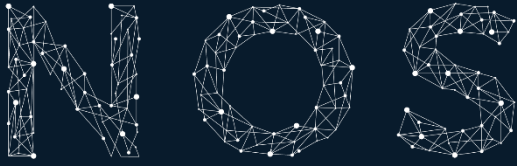
Use fully shielded lights
that face downwards



Warm colour
temperature bulbs
2700 or below Kelvin



Use PIR motion sensor
or timer



PARTNERIAETH AWYR DYWYLL
DARK SKIES PARTNERSHIP

Project NOS

Designated Landscapes in Wales

Welsh Government funding

Developing solutions to lighting needs

*Demonstration - 24 Retrofitting projects
across Wales*

Linked to ecological connectivity



Image 02 : Map of the Retrofit Projects



Dyffryn Gwy
Tirwedd
Cenedlaethol
Wye Valley
National
Landscape



Ynys Môn
Tirwedd
Cenedlaethol
Anglesey
National
Landscape



Gŵyr
Tirwedd
Cenedlaethol
Gower
National
Landscape



Llŷn
Tirwedd
Cenedlaethol
Llŷn
National
Landscape



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Parc Cenedlaethol Arfordir Penfro
Pembrokeshire Coast National Park



PARC CENEDLAETHOL
ERYRI
NATIONAL PARK



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Security Lighting

Loggerheads Country Park



*Fully Shaded – no light spill
Directed to where its needed
Colour temperature – 2700K
Less glare
Fully controllable*



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Sports Lighting

Ruthin Tennis Centre

6 courts saving of 31.2KW/h
61.9% reduction in electricity and carbon emissions.

Fully Shaded – no light spill
Colour temperature – 2700K
Less glare
Fully controllable
62% less energy





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🔍 Ruthin Rugby Club

>250 lux

Meeting WRFU standards

Dimmable to 60% and 10% for further saving

45% energy saving





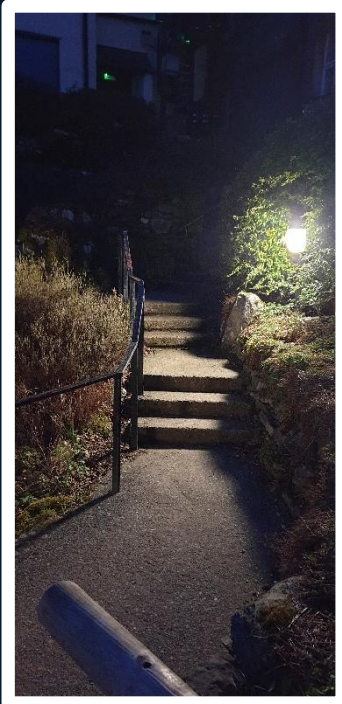
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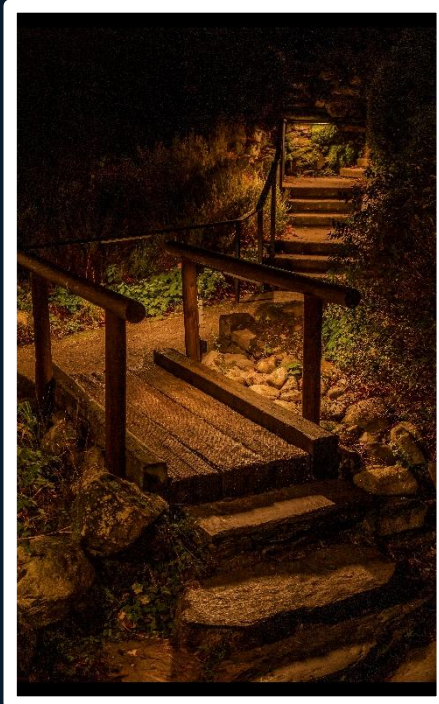
Plas y Brenin – Eryri National Park

Retrofitting

Before



After



Before



After



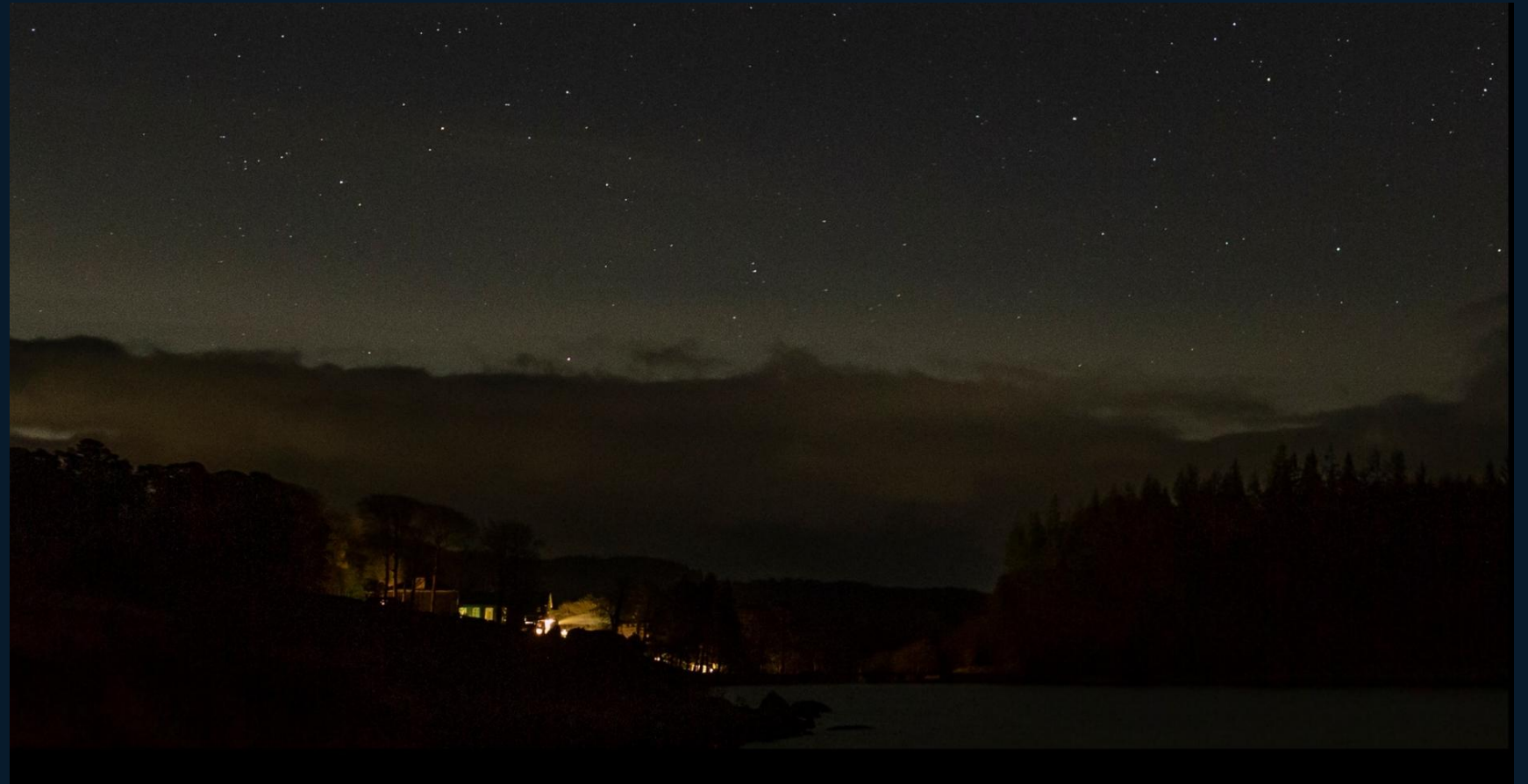


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Plas y Brenin – Eryri National Park

Sky glow

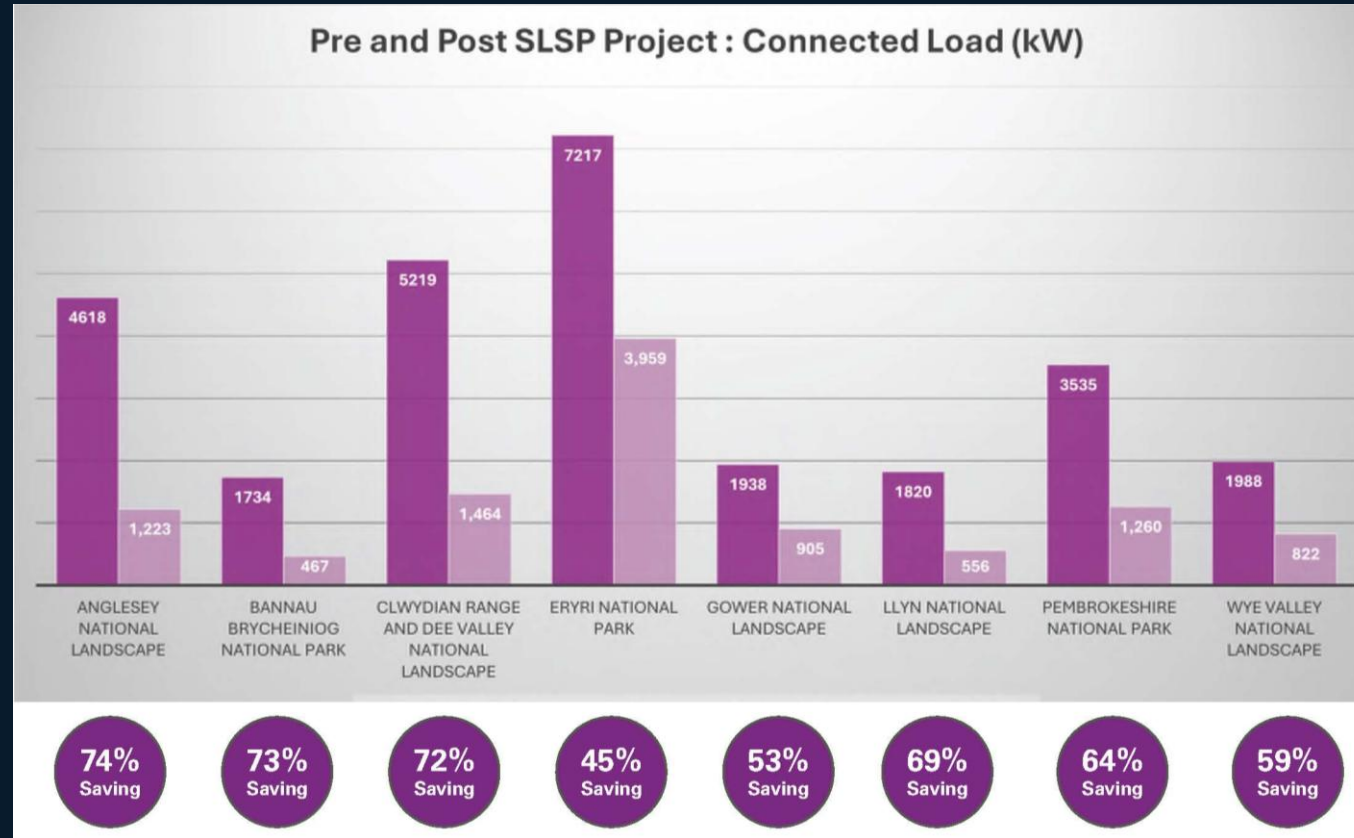




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Significant energy savings whilst delivering biodiversity gains.





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Wales Dark Sky Working Group

- Established to produce National Planning Guidance
- Based on Clwydian Range and Dee Valley NL SPG
- Acts as Supplementary Planning Guidance for Local Authorities
- Collaboration across Wales:

Clwydian Range and Dee Valley National Landscape

Conwy County Council

Eryri National Park

Pembrokeshire National Park

Anglesey National Landscape

NRW

Welsh Government



Llywodraeth Cymru
Welsh Government





Wales Dark Sky Working Group

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The good practice guidance advocates that when considering development proposals, planning authorities should ensure:

- Lighting does not detrimentally change the character of the landscape.
- Lighting is appropriate and minimises light spillage which may be experienced locally, at distance and from key viewpoints.
- The Institution of Lighting Professionals (ILP) environmental zones E0 to E4 for exterior lighting control should be adopted.



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*The right light
In the right place
At the right time*

Wales National Good Practice Guidance

Policy Objective

The need to avoid light pollution when preparing planning Strategies and policies and when considering individual Development proposals.

- sets out a process for assessing existing lighting conditions on site
- Sets out a procedure for producing a lighting plan
- a detailed guide of the key lighting questions that must be addressed as a planning application advances through the planning process.
- Provides good practice case studies





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Wales National Good Practice Guidance

<https://www.gov.wales/sites/default/files/publications/2025-02/dark-skies-guidance.pdf>



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