

Embracing Dark Sky Tourism in Northern Periphery and Arctic regions

Daisy Silvennoinen, Martina Ui Dholain, Outi Santaniemi



Interreg



Co-funded by
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Northern Periphery and Arctic

**GLOW2.0. Green Energy Technologies
for Tourism Growth**

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Darkness I

No light; total darkness, experience of nothingness

➤ *painful experience, no connection to surrounding environment*

Darkness II

Natural/ correct amount of light

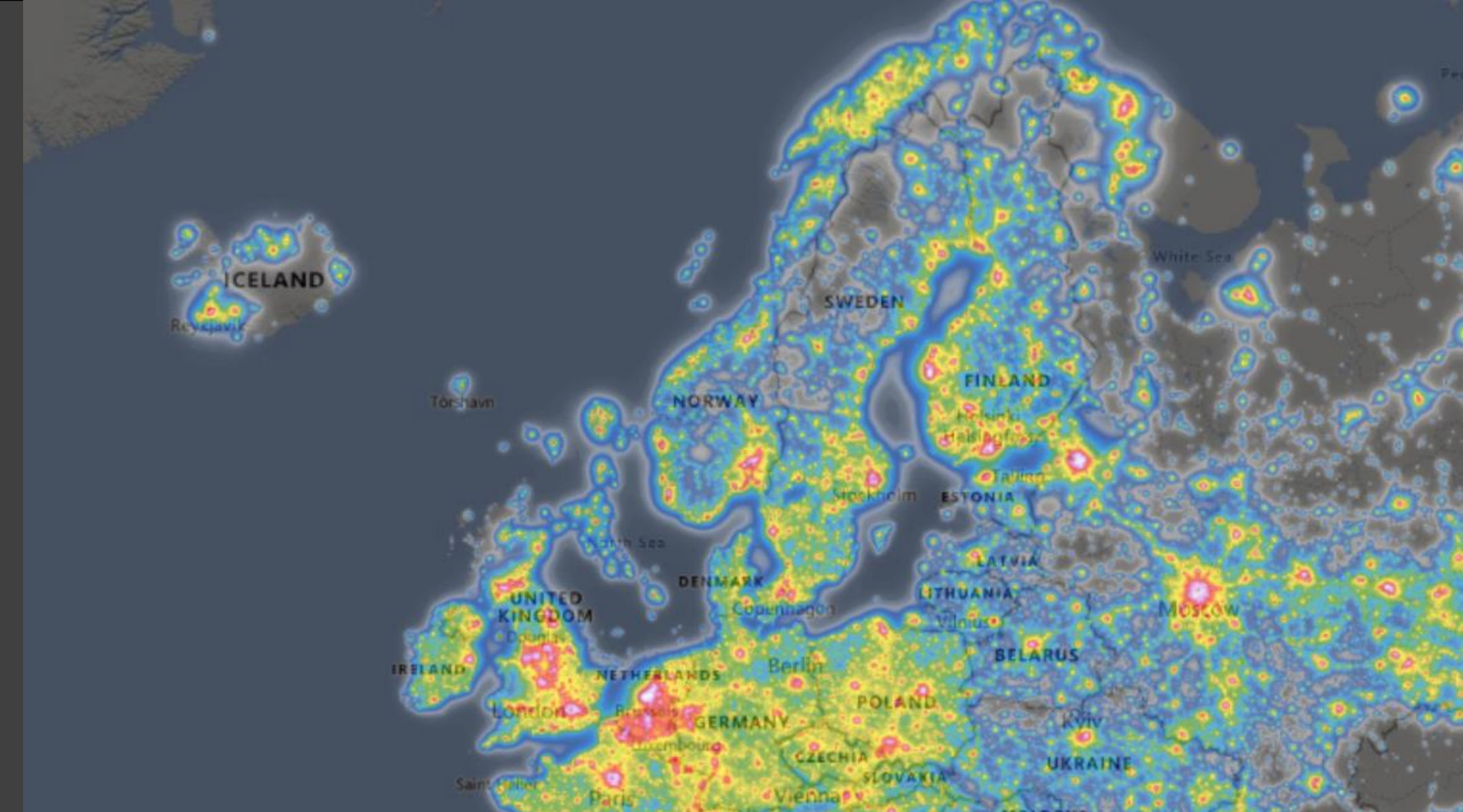
➤ *no more nothingness, takes a form*

➤ *connects to own surrounding, awakens senses*

- *medium between you (perceiver) and the environment*

- *meaningful experiences; aesthetics of spaces*

- *understanding, connectedness to the environment through science, history and narratives*



Light pollution

➤ *unlit sky Vs lit sky, lit environment Vs overlit/ poorly lit*

- *human, environment, economy*

Immersive technologies role

➤ *Extended/ virtual reality deriving from experiences of dark environments*

- *understanding, connectedness through science, history and narratives*

- *medium informing / guiding visitors*



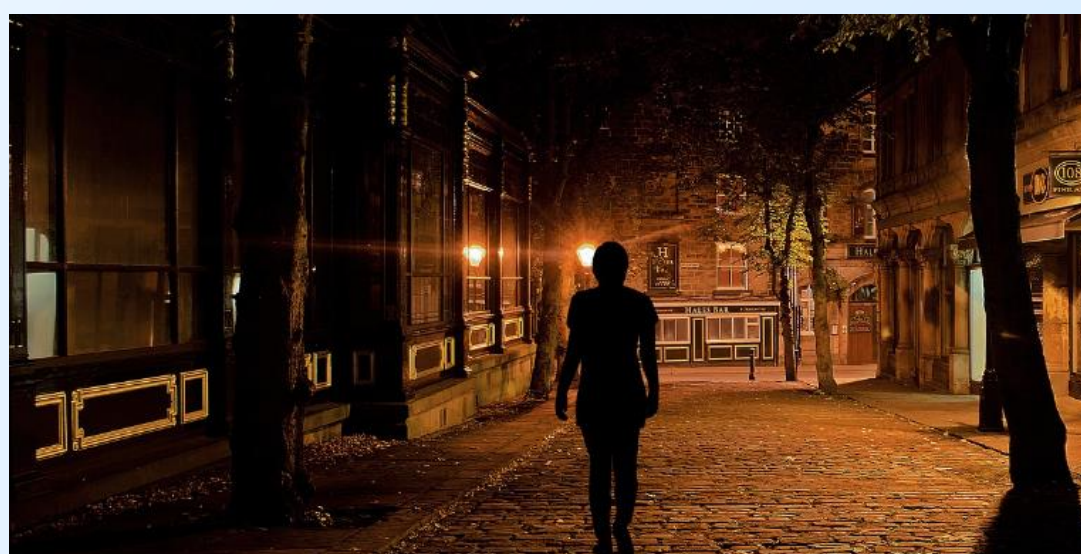
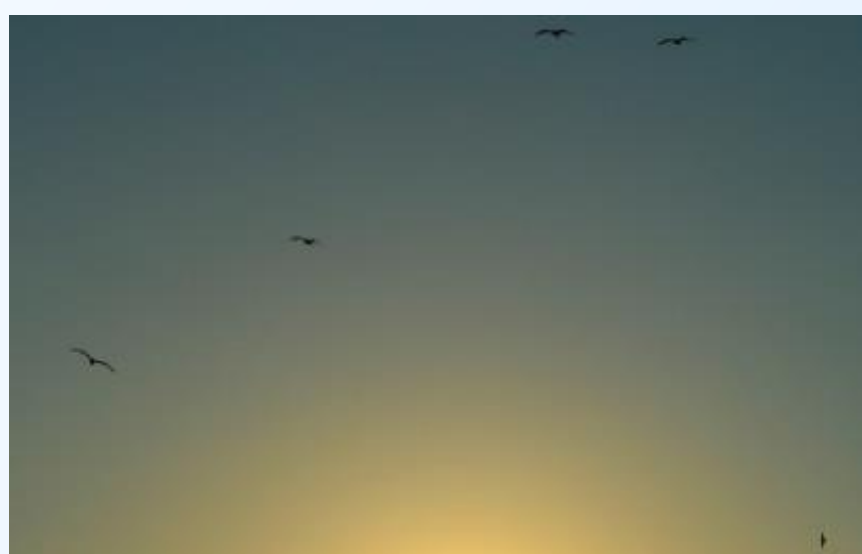
Can we create meaningful dark spaces?

Trespass

Glare

Sky glow

Clutter



REGIONS
Residents/ visitors stress,
lack of sleep, migraine,
visitor satisfaction, residents acceptability

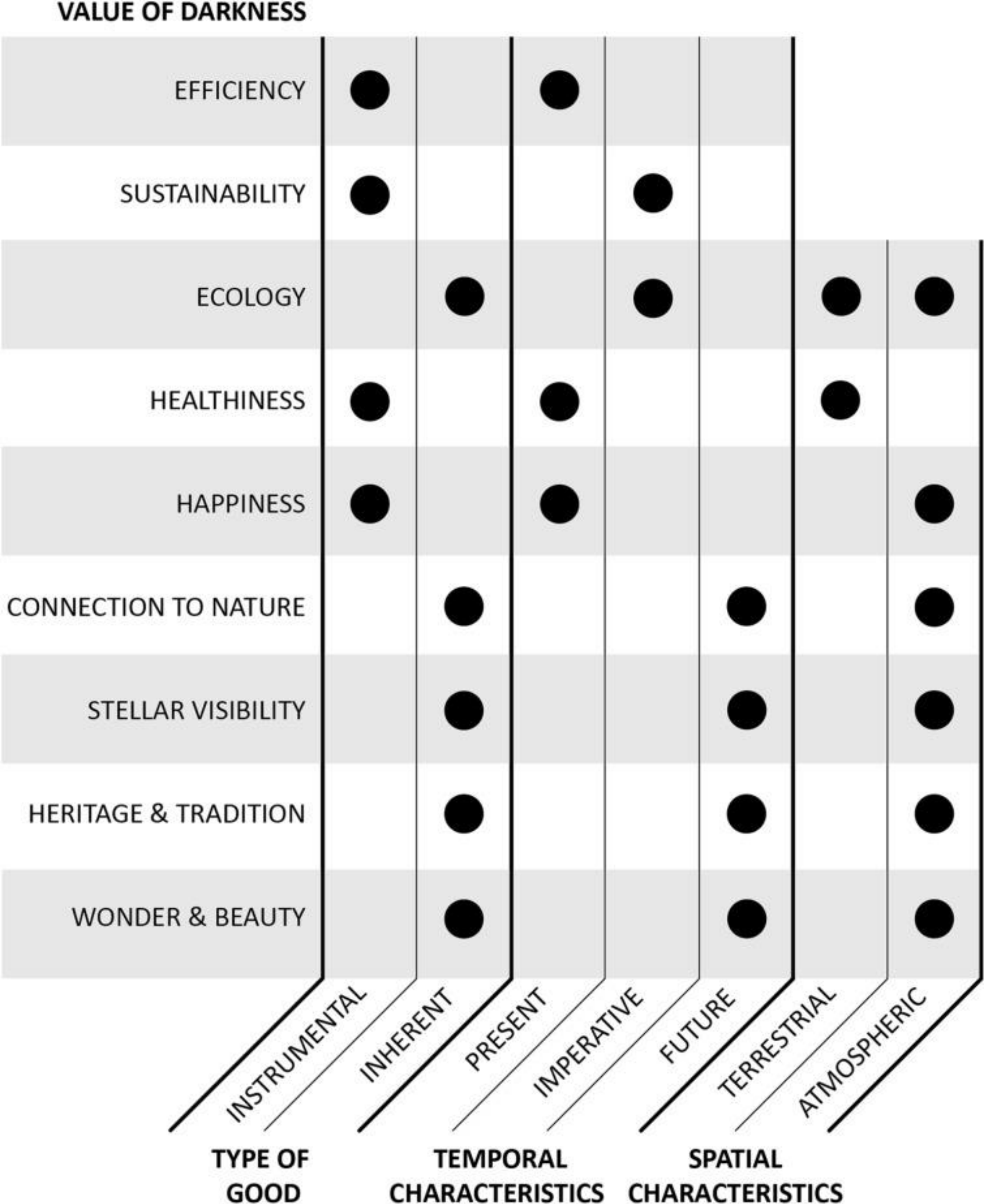
FLORA & FAUNA
migration patterns disturbance, stress
and confusion, foraging behaviors,
pollination, exhaustion

REGIONS & WELLNESS
Residents/ visitors' views and feelings
about safety, health, aesthetics of spaces

REGIONS & ECONOMY
Heritage & culture,
stellar visibility for
science & tourism

ENVIRONMENT & ECONOMY
Electricity cost, cost from nature
tourism/ visitor satisfaction, biodiversity
loss, carbon emissions, food security,
residents wellbeing

FLORA & FAUNA
stress, confusion, exhaustion,
predation



Is darkness worth protecting?

(Click title for Ireland case study example)



Dark Sky Tourism

Survey of service providers



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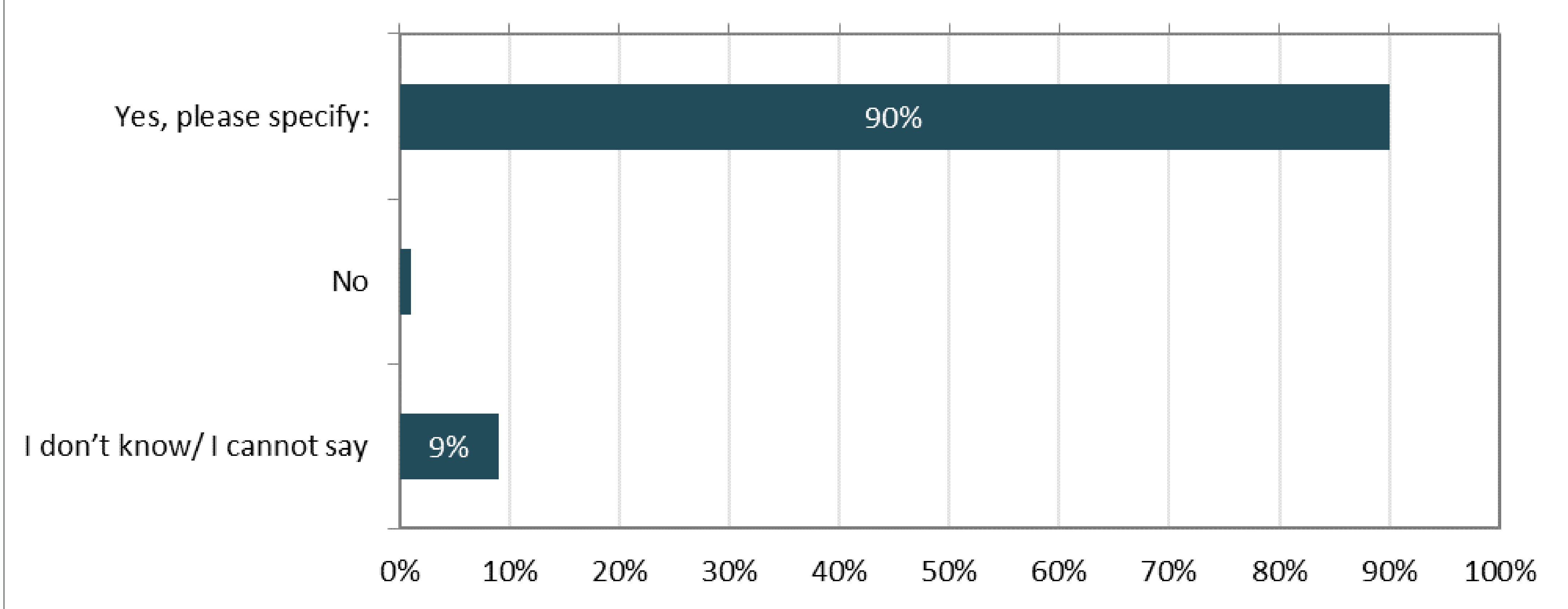


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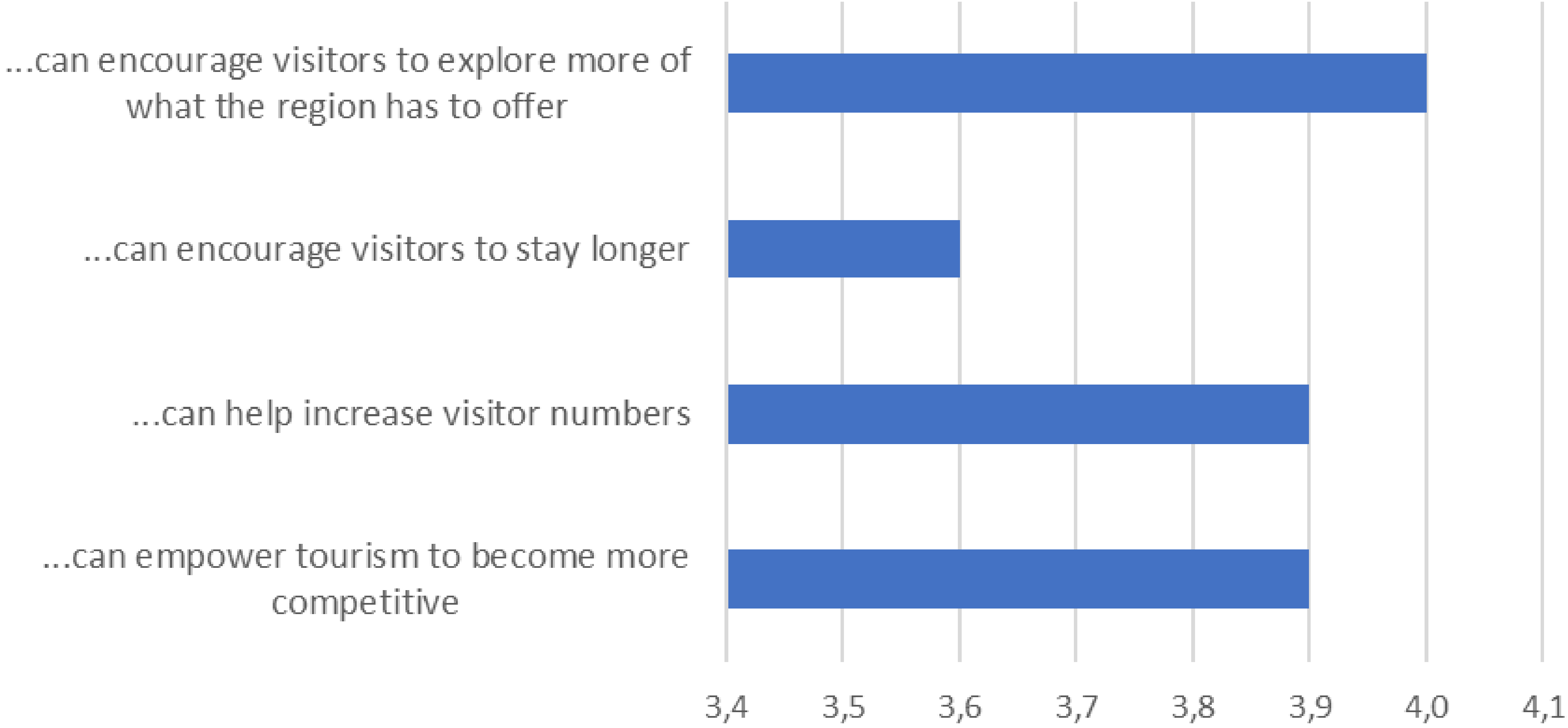
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Do you see opportunities in marketing of darkness related tourism products/ services?



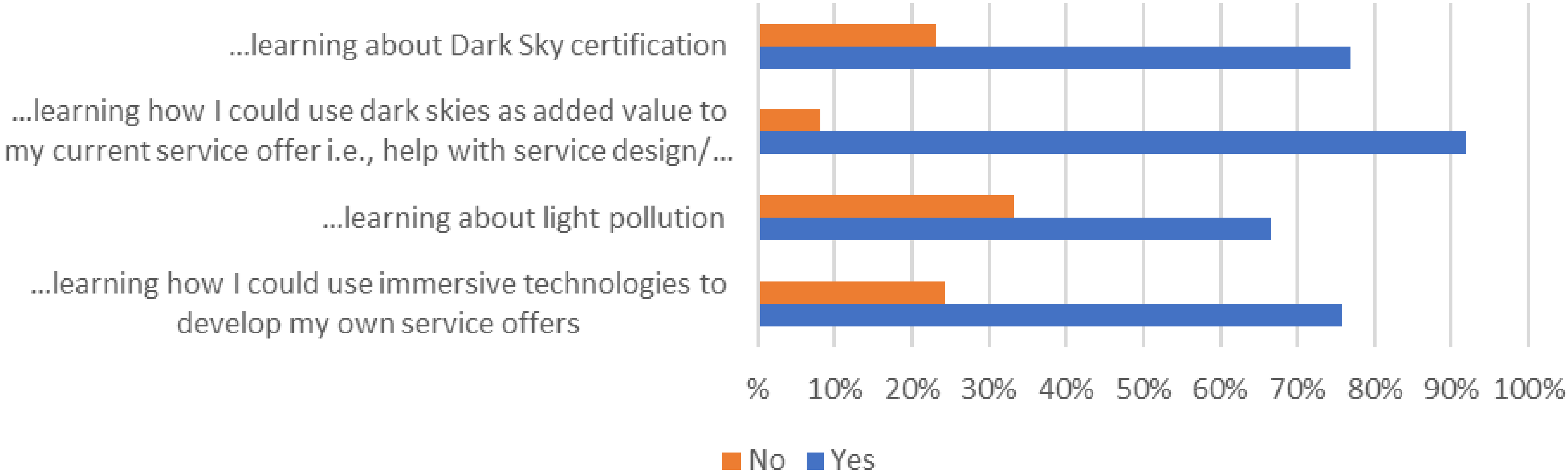
In your opinion, can advanced technologies support tourism?

Opinions about advanced digital solutions use in tourism e.g. mobile apps, virtual reality applications (n=99).
1= lowest score, 5= highest score

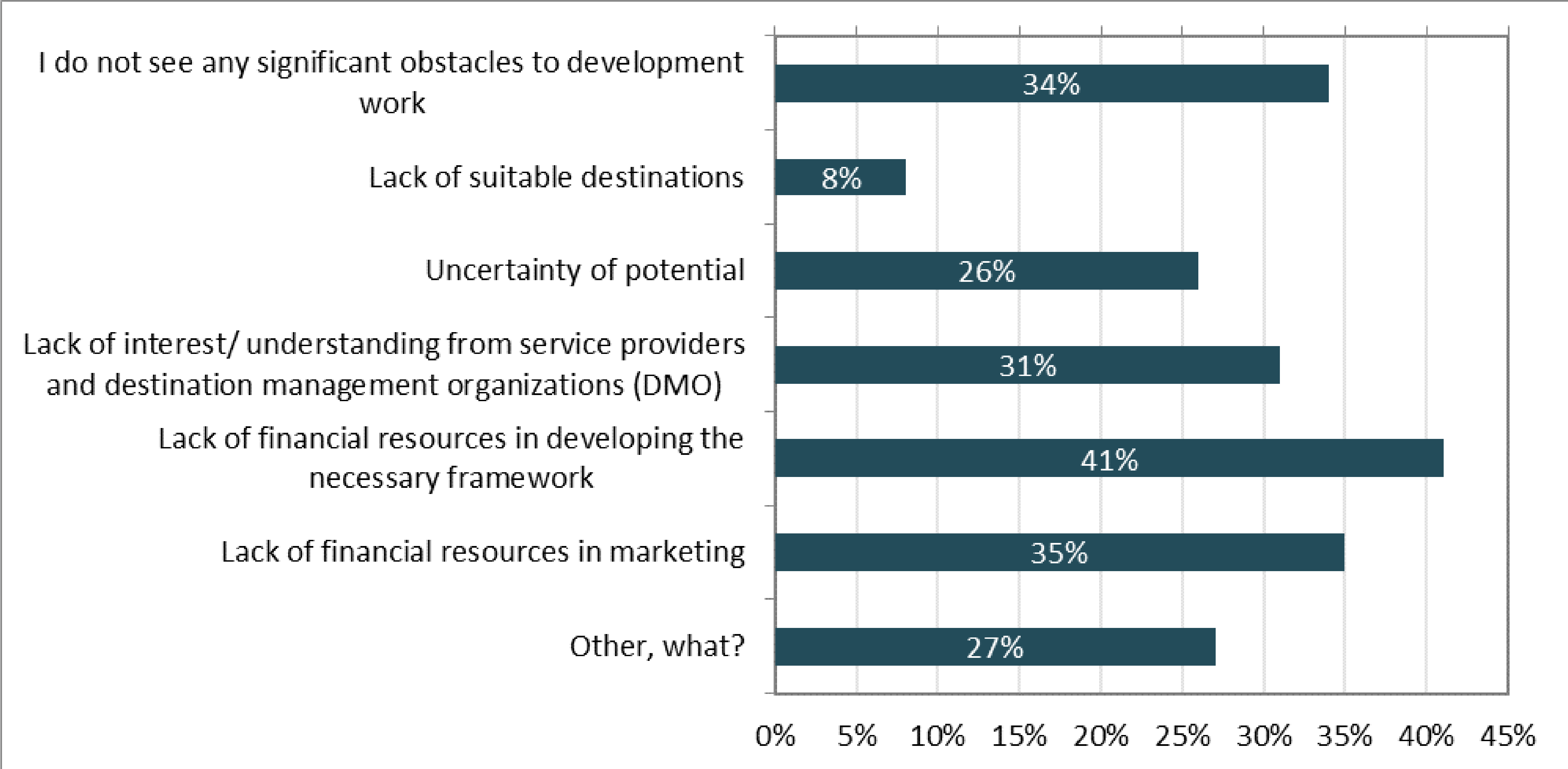


Are you interested in darkness concepts and themes as added value to your current offers?

Interest in dark sky tourism concepts, theme and development
(n = 99)



Obstacles/ practical difficulties for darkness related tourism development



NPA PROJECT GLOW2.0

Dark skies are an attraction that has been utilized too little in the past in our regions. Areas with little or no light pollution have huge potential to enhance the tourism experience.



"GLOW2.0 supports enterprises and public organisations in developing tourism offers involving dark skies & darkness of nature.

(Click here for exemplary video)



Photos: Indoor concert hall (GLOW2.0), rest (Pixabay)



Dark Sky Tourism

Business examples model



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BUSINESSES WITH EXPANSION POTENTIAL



Sperrin Glamping pods



Accommodations

B&B, Glamping Sites etc: provide complimentary late checkout, have stargazing basket – flask for hot drinks, blankets, red torch, binoculars.

Apps:

Stellarium, Star Walk

Restaurants

Night Sky Themed Menus & Cocktails
Create a menu named after famous stars to tie in with the astro-tourism theme.



BUSINESSES WITH EXPANSION POTENTIAL

Rural Adventure Farm/Pet Farms/Bike Hire

Partners up with local astronomy clubs & run a day long event.

Tours that combine learning about farm animals & talk about the nocturnal behaviors of the farm animals.

Cycling tours followed by a talk with local astronomy club.

Local Heritage Site/ Greenways/ National Parks

Can be used after dark for Walking tours, Stargazing experiences & Astro Storytelling.

Nature/ outdoor activities

Guided Tours & Personalised Photo Sessions.

Water activities e.g. kayaking, canoeing, cruise, fishing.

Winter activities e.g. snowshoeing.

Festivals

Regional collaboration with various service providers.

COLLABORATIONS & SAMPLE ITINERARY

Beneath the Skies: Nature & Stargazing Adventure

1-Day Stargazing Adventure

Morning:

Guided nature hike, mountain biking, or wildlife viewing.

Lunch: Scenic picnic or charming café experience.

Afternoon:

Free exploration time or visit historical attractions/art galleries.

Evening:

Dinner at a local restaurant, savoring regional cuisine.

Expert-led stargazing with telescope observations, astrophotography tips, and a night sky presentation. Complimentary late check-out in the morning.

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[Click HERE to access exemplary video on networking & collaboration](#)

Kielder Water & Forest Park & Northumberland National Park



RESEARCH INTO THE ECONOMIC IMPACT OF DARK SKY TOURISM

As one of England's most rural areas, Northumberland enjoys some of the darkest skies in the country. In December 2013 The International Dark-Sky Association (IDSA) awarded International Dark Sky Park status to the combined areas of Kielder Water & Forest Park and Northumberland National Park.

Research including telephone and online surveys of businesses within Northumberland was carried out during 2018 to establish the Impact of Dark Sky Tourism in Northumberland during 2017.



Over **£25million** economic benefit



supports **450** jobs

BUSINESS INVESTMENT

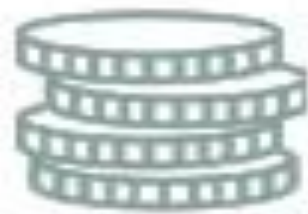
13% who had invested in their business in the last 10 years did so partly or solely due to dark skies

BUSINESS PERFORMANCE

15% reported an increase in business performance as a result of dark skies

KIELDER OBSERVATORY

estimated to bring over



£1m of expenditure into the region

The increase in the visitors that we have in the winter means that we can keep the staff we have all year round

Northumberland Business Owner

Northumberland International Dark Sky Park Partners



What we do

“We encourage people and regions to embrace darkness of nature and extend their stays also in darker seasons of the year”

- Enhancing the capacity of SMEs in delivery, marketing and promotion of tourism offers involving dark skies.
- Technology development: Virtual planetarium, Introducing enterprises to accessible immersive technologies (AR, VR).
- Promotion of Dark Skies tourism as a regional offer across all the regions.

How we work

Partners



Associated partners



Target groups

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Regions: technical and business capacity support

GLOW2.0 Capacity Building Program for SMEs

Marketing awareness and skills and networking for regional impact

Learn how to utilize dark sky themes in your product or service development.

Gain knowledge on how to refine tourism offerings with service design and storytelling.

Create strong networks for regional impact, added value from creative industry & food providers.

Technical capacity in using immersive and other digital technologies

Learn how immersive technologies (AR, VR) can best support your business.

Technology testing sessions help you find ways to create meaning in your tourism offerings.

Improving knowledge of dark skies science concepts and technologies and techniques for preserving dark skies

Learn why protecting the night makes a difference in responsible tourism industry and creates value for customers.

Discover ways of creating meaningful dark spaces to help your business attract new audiences.

Case studies help you create your own take on night-friendly tourism offerings.

WHERE WE WORK

NPA programme (Interreg NPA) GLOW2.0 project

Partners★

- Karelia University of Applied Sciences, coordinator (Finland)
- Federation of Northern Lapland municipalities – PLAKY; Sodankylä, Inari, Utsjoki (Finland)
- Federation of Regional Authorities NW Iceland (Iceland)
- The Gaeltacht Authority (Ireland)
- Innovation and Management Centre WestBIC (Ireland)
- UiT The Arctic University of Norway (Norway)

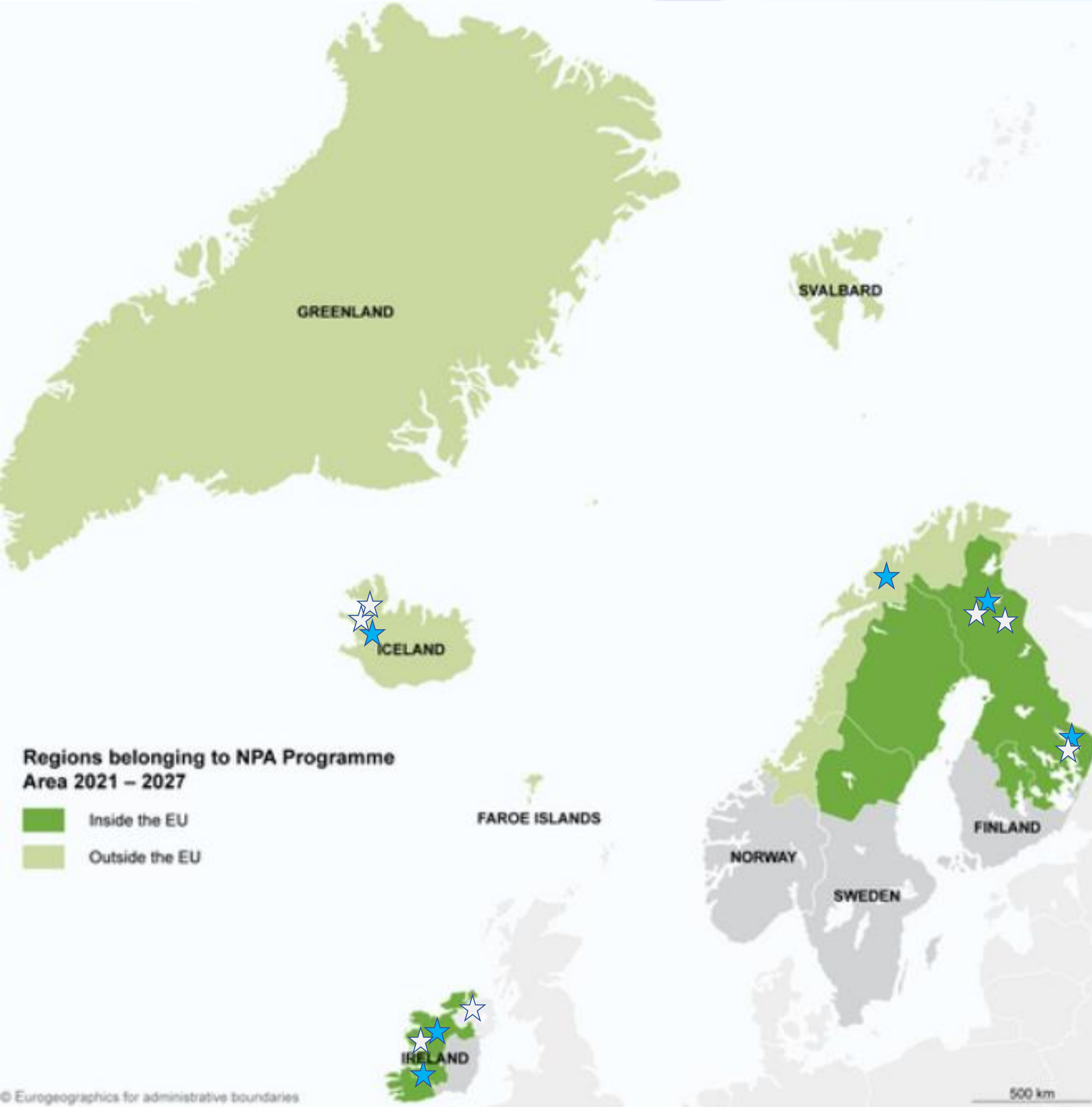
Associated partners★

- Ulster University (Northern Ireland)
- Snæfellsnes Regional Park (Iceland)
- Centre for Economic Development, Transport and the Environment/ NKBR (Finland)
- National Parks and Wildlife Services (Ireland)
- Värriö Subarctic Research Station | University of Helsinki (Finland)
- Hólar University (Iceland)
- Sodankylä Geophysical Observatory | University of Oulu (Finland)

Budget:

Total budget €1,798,328.64, ERDF-share of funding €1,366,645.00

Implementation period: 12/2022 – 11/2025



Contact GLOW2.0 partner in your region:

Finland

Karelia University of Applied Sciences

Timo Rui (timo.rui@karelia.fi)

Ireland

Innovation and Management Centre WestBIC

Seamus McCormack (smccormack@westbic.ie)

The Gaeltacht Authority

Martina Ui Dholain (m.uidholain@udaras.ie)

Iceland

Federation of Regional Authorities NW Iceland

Davíð Jóhannsson (david@ssnv.is)

Norway

UiT The Arctic University of Norway

Wei Deng Solvang (wei.d.solvang@uit.no)

Engage with us via website/ social media (Facebook):

GLOW2.0 website: <https://glow.karelia.fi/en/about/>

Finland: <https://www.facebook.com/Glow2Suomi>

Norway: <https://www.facebook.com/Glow20-Norge-107112689012277>

Ireland: <https://www.facebook.com/profile.php?id=100093501256277>

