

NET ZERO STARTS ON SITE

Closing the Skills Gap in Biophilic Construction in Wales

Introduction

Biophilic construction integrates natural elements and principles into the built environment to improve sustainability and occupant wellbeing (Kellert et al., 2008). Despite growing recognition of its benefits, adoption within the Welsh Construction industry remains limited.

This study investigates the skills gap in biophilic construction methods in Wales and considers the implications for achieving Net Zero targets.

Literature Review

Biophilic Design

- Humans have an innate connection with nature (Wilson, 1984).
- Natural environments improve well-being and productivity (World Green Building Council, 2014).
- Buildings should integrate natural systems and materials (Kellert et al., 2008).



Net Zero & Construction

- Wales aims to achieve Net Zero by 2050 (Welsh Government, 2021).
- Construction contributes significantly to carbon emissions (UKGBC, 2021).
- Sustainable construction methods are essential (HM Government, 2021).

Green Skills Gap

- Industry lacks practical, sustainable construction skills (CITB, 2021).
- SMEs face barriers to training access (Miller Research, 2004).
- Existing education is often too theoretical (Construction Leadership Council, 2019).

Aims and Objectives

AIM: To investigate the skills gap in biophilic construction methods within the Welsh construction industry and evaluate its implications for achieving Net Zero targets.

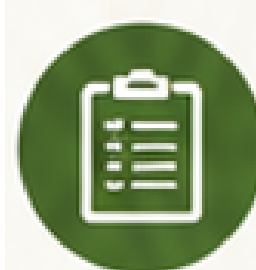
OBJECTIVES:

- Assess awareness and understanding of biophilic construction.
- Identify gaps in education and training.
- Explore barriers preventing upskilling and adoption.
- Evaluate implications for Net Zero targets.
- Recommend improvements for implementation.

Methodology



Questionnaire Survey
With industry professionals across Wales.



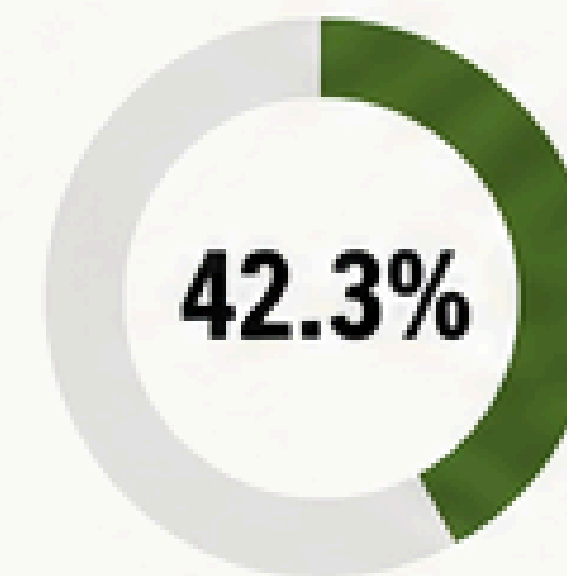
Semi-Structured Interviews
-Builders
-Project Manager
-Architect
-Sustainability professionals
-Educator



Data Collection
-Statistical Analysis
-Thematic Analysis
-Triangulation approach

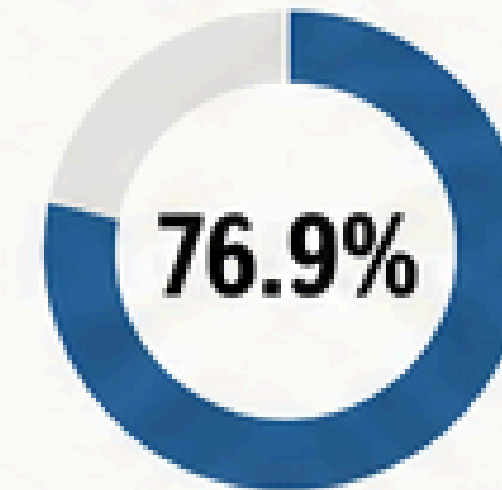
Key Findings - Questionnaire

AWARENESS OF BIOPHILIC CONSTRUCTION



42.3% reported NO familiarity with biophilic construction
37.7% had some familiarity
20.0% were very or extremely familiar

CONFIDENCE IN APPLYING BIOPHILIC METHODS



76.9% lacked confidence in applying biophilic construction methods in practice
23.1% had confidence

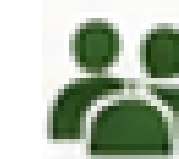
AWARENESS BY ROLE



Identified Barriers to Adoption of Biophilic Methods



Lack of knowledge/ Awareness



Low client demand



Limited training opportunities



Cost considerations

Net Zero Implications



Net Zero is considered important across the industry



Confidence in achieving targets is low



Workforce capability is limiting progress

Conclusion

This research found a significant skills gap in biophilic construction within the Welsh construction industry. Although awareness of sustainable construction is increasing, many professionals lack the practical skills and confidence needed to apply biophilic methods in practice. Key barriers included limited training, cost and low client demand.

The study highlights the need for more practical education, stronger industry collaboration and ongoing research, including projects such as the REPAIR Project, to support progress towards Net Zero targets.

Scan for further information on the Repair Project



Recommendations



IMPROVE TRAINING
& UPSKILLING



STRENGTHEN EDUCATION-
INDUSTRY LINKS



INCREASE INDUSTRY DEMAND

References

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