

Strategic Approaches for Building Decarbonisation: Descriptive Evidence from Built Environment Professionals

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INTRODUCTION & AIM

- ❖ Decarbonising the built environment is a critical strategy for mitigating climate change, particularly in developing economies experiencing rapid construction growth.
- ❖ However, despite the availability of multiple decarbonisation strategies, their implementation within the Architecture, Engineering, and Construction (AEC) sector remains inconsistent and poorly understood.
- ❖ Most existing studies emphasise technological solutions, with limited empirical insight into practical implementation strategies from industry professionals.

Aim

To determine strategic approaches for promoting the implementation of building decarbonisation initiatives in South Africa.

METHOD

Research Design: Descriptive research approach

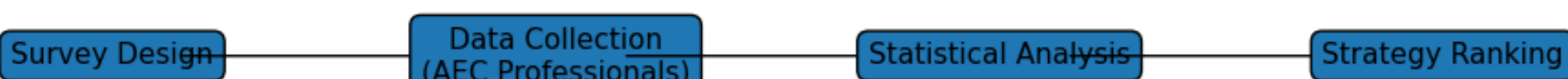
Data Collection: Structured questionnaire

Respondents: Built environment professionals across AEC disciplines

Data Analysis: Descriptive statistics

- Frequency distributions
- Mean score rankings

Methodological Flow



RESULTS & DISCUSSION

Top-Ranked Strategies for Building Decarbonisation

1. Access to Green Financing

- Critical enabler for the adoption of low-carbon solutions
- Reduces financial barriers to sustainable practices

2. Energy Efficiency Upgrades

- High-impact intervention for reducing building emissions

3. Use of Green Rating Tools

- Provides structured frameworks for sustainable design and construction

4. Building Energy Management Systems (BEMS)

- Enhances operational efficiency and energy monitoring

5. Public Awareness & Stakeholder Engagement

- Drives behavioural change and market demand

CONCLUSION

- ❖ Building decarbonisation requires more than technological solutions
- ❖ Financial support, regulatory alignment, and stakeholder awareness are key drivers
- ❖ Practitioner insights provide critical direction for real-world implementation

Recommendations

- ❖ Policy Level
 - Strengthen green financing frameworks
 - Integrate decarbonisation into building regulations
 - Promote capacity-building initiatives
- ❖ Industry Level
 - Mainstream energy management practices
 - Adopt and utilise green rating systems for decision-making

FUTURE WORK / REFERENCES

- Integrate identified strategies with quantitative performance-based assessments
- Conduct longitudinal studies to track implementation outcomes over time
- Develop sector-specific case studies within the AEC industry
- Expand research to other developing economy contexts for comparative validation

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