

# NP2000

## BIOPHILIC DESIGN: MAINSTREAMING THROUGH THE PLANNING SYSTEM.

**Research Question:** How does biophilic design, in the form of green roofs, facades and walls, become embedded into the mainstream design process?

**The research intends to explore and evaluate the level of mainstreaming of biophilic urban design, focusing on green roofs, walls, facades and other building-integrated vegetated systems. The project also seeks to identify the perceived and actual barriers to wider uptake along with the motivators among stakeholders who are considering applying the concepts of biophilia into building projects.**



Figure 1: City of Melbourne Urban Forest Strategy and Precinct Plans 2012-2032.

### Methodology

**The research will use case studies to develop some key mainstreaming principles, masterplans, codes of practice, zoning, regulations, and quantified business cases. Singapore as a leader in biophilic design will be a base for several case studies as well as local case studies in Perth including Greater Curtin. The research project has entered**

**a preparatory stage and is due to be completed in 2018.**

### Results

**The results of the literature review of biophilic design.**

In the last 25 years, biophilic urban design has gained substantial recognition in North America and Europe, and, in recent times, has been slowly embraced by Asia and Australia.

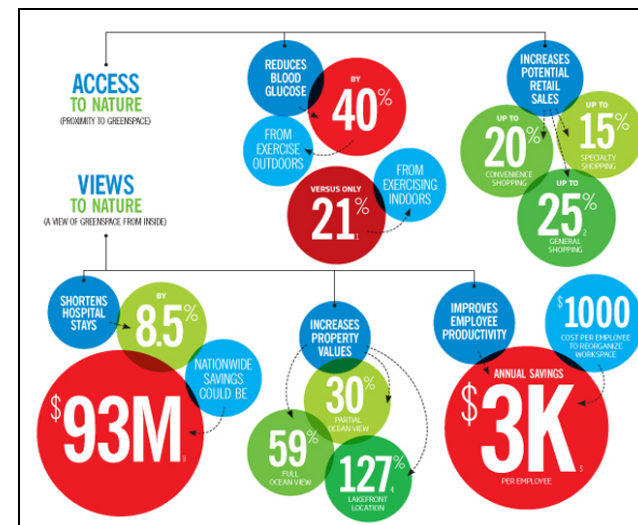


Figure 2: Bottom Line Benefits of Biophilia by William D. Browning, 2012.

Theoretical literature on the necessity of biophilic design are now available but the applications are not common. The urgent need of applying biophilic elements across the urban areas has prompted more investigation into barriers, drivers and economic benefits of biophilic structures on a community, precinct and city scale.

Whilst conceptual understanding of benefits has been recognized, they have not yet been translated into financial gains. Showcase examples are needed including local ecological and cultural

contexts, climate and weather patterns, to provide the accurate and appropriate and locally derived data of economic benefits of the biophilic design.

### Conclusions

A Planning Processes Framework to enable biophilic building-integrated structures is needed, considering the whole strategic and statutory planning process. A Strategic Business Case is necessary to demonstrate: costs to investors, clients and government (if subsidies apply), benefits to clients and public, economic and social return on investment, barriers and drivers for implementing biophilic design.

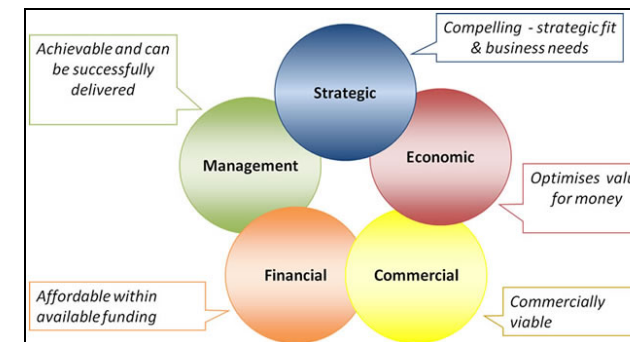


Figure 3: Better Business Case (BBC) by The Treasury of New Zealand.

### Anticipated impacts

**The Strategic Business Case based on live precinct-scaled projects will demonstrate a much needed conceptual model of cost-benefit analysis and it will include the financially measurable benefits delivered by biophilic structures. The Planning Process Framework will show how barriers to delivery of biophilic design can be overcome.**

**Biophilic Design to enable precinct planning to include greenery in, on and around buildings through a new Planning Framework and Business Strategy.**

### Further information

**Further information will soon be available on the CRCLCL website.**

### Contact

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