

# **Planning controls and sustainability**

## ***PlanFirst's potential seen through a case study of Pittwater 21***

Do local plans written using the principles contained in Plan First contribute to improving ecologically sustainable development? An Australian perspective on the sustainability impacts of the interaction between planning and building design.

**By Richard James Clarke**

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**University of Technology, Sydney**

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## **Certificate of authorship and originality**

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Candidate:

.....

Richard James Clarke

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## **Abstract**

Sustainability will only be achieved if it is universally accepted and embraced by the community, rather than remaining the domain of the innovative few, or a plaything of the rich and able. Local planning instruments have a significant effect on the sustainability of the built environment, and the process by which they are made has a big effect on their content and its outcomes. In the Australian local government context, PlanFirst offered an opportunity for the process of making local plans to focus on community consultation and sustainability, using a collection of principles proven in local or international experience, and supported in the literature. While PlanFirst was never implemented as policy by government, a few councils created their local plans in response to it, providing some limited opportunity for study.

Pittwater Council, on Sydney's northern beaches, prepared a new Draft Local Environment Plan using PlanFirst as a template, which is studied in this research to test the potential of the PlanFirst principles, and to measure their predicted outcomes in the built environment. The process of writing the LEP is analysed using actor-network theory, which assists an understanding of it for future similar processes.

Three ecological impact categories – greenhouse, water demand, and car dependency – are measured in residential developments approved under the old and new planning controls. Measurement tools are used to predict greenhouse emissions, mains supplied potable water demand, and motor vehicle traffic impacts on greenhouse and human amenity.

The research finds that PlanFirst's principles offer potential for improved sustainability, which is supported indicatively in the case study. Effective community consultation is found to be a vital component of the process, with a targeted education component. An effective means of delivering the relevant planning controls to the designers is also important, and a web based interrogative system is found to be an effective vehicle for this. Policy stability, and bureaucratic stability at the highest levels is also found to be critical to enabling councils and communities to make and execute long term plans.



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# Terminology

The research uses terminology common to the building design and urban planning fields. Some terms which may not be familiar to the reader, or which are peculiar to this local context, are explained here.

BASIX .....	Building Sustainability Index produced by DIPNR	NatHERS .....	Nationwide House Energy Rating Software
BCA.....	Building Code of Australia	NLA .....	National Library of Australia
BTP.....	Building Thermal Performance	P21 .....	Pittwater 21 Local Environmental Plan
CC.....	Construction Certificate – obtained after gaining a DA, allows construction to commence	passive cooling.....	cooling design principles which require little or no artificial energy
planning control.....	a clause or other written device that steers or limits specific physical elements of a proposed development	passive design.....	techniques for providing thermal comfort which require little or no artificial energy
DA .....	Development Application – lodged with local councils to gain planning approval. Approximate equivalent to Building Application in some other states of Australia.	passive solar heating.....	heating design principles which require little or no artificial energy
DCP .....	Development Control Plan – contains planning controls, a subset of an LEP	place based planning.....	planning strategies which define places people belong to or go to, rather than permissible land uses
development .....	human activity which results in something being built	PLEP 93.....	Pittwater Local Environmental Plan 1993
DIPNR .....	NSW Dept of Infrastructure Planning and Natural Resources	PMC .....	Pittwater Municipal Committee
DUAP.....	NSW Dept of Urban Affairs and Planning	SEPP .....	State Environmental Planning Policy
ESD .....	Ecologically Sustainable Development	SoE .....	State of the Environment Report
EP&A Act.....	NSW Environmental Planning & Assessment Act (1979)	solar access.....	design techniques that allow the sun to penetrate a building, may be good or bad
IPCC .....	Inter-governmental Panel on Climate Change	sustainable .....	that which can be carried on over unlimited time
iPlan.....	a web based interrogative planning instrument	sustainability.....	the study of, or movement towards, being sustainable
LA21 .....	Local Agenda 21	thermal mass.....	materials which can absorb, store, and distribute heat, as in passive design
LEP .....	Local Environment Plan – established in NSW legislation, written by local councils to steer all land use and development within the whole or part of the local government area	urban density.....	a measure of dwellings per unit of area
MasterPlan.....	Pittwater Council's web based interrogative DCP, modelled in iPlan		
masterplan.....	also masterplanning – a detailed planning strategy setting out physical form and limits to development over a number of lots		
medium density...	a relative measure of dwelling units per hectare, usually intended to mean villas, and townhouses, or single residential on very small lots		
NABERS .....	National Australian Built Environment Rating System		