

From: [Olga Farnill](#)
To: [DPTI:Planning Reform Submissions](#) Phase
Subject: 3, Urban Planning and Design Code
Date: Friday, 20 December 2019 3:27:48 PM

The essential policies to guide any suburban and city development cannot afford to overlook the crying need for environmental considerations, in the light of the rapidly increasing threats posed by climate change and the needs of the growing population. Yet I see no improvement in building-standards and requirements that would provide truly climate-resilient buildings, reduce power-demands, and better fill the needs of residents

These needs include:

- physical and mental health, and a sense of community which also aids in meeting these needs
- and the need for conservation of water, clean air and a liveable temperature.

All of these are threatened, not only by the heating climate, and increasing water-shortages, but partly by human construction of buildings which increase urban heat, and the removal of so much of the vegetation that helps to moderate temperature. It appears that most housing relies more on air-conditioning than on high-quality insulation and building-materials that can resist heat-penetration.

Even in the leafiest Eastern suburbs of Adelaide, I continually observe the destruction of well-constructed stone and brick houses with verandahs and shady gardens, and their replacement with enormous, boxy structures occupying so much of the building block that they leave virtually no room for any significant vegetation. Also, I rarely see any environmentally sensible features such as solar or solar-thermal panels on rooves, verandahs, or even wide eaves, water tanks, and such sustainable, protective installations.

There is much scientific evidence to show that vegetation is extremely important in urban and suburban environments. For example, the many public lectures and publications of Prof Chris Daniels, formerly Professor of Ecology at the University of Adelaide, shows the essential role played by a green environment in residential areas, to protect the people from excesses of temperature, which are particularly dangerous for the very young and older people, to give both children and adults the chance to enjoy the outdoors (important for both physical and mental health), and to promote a sense of community, neighbourliness and civic pride, often lacking in a "concrete jungle". Other scientific studies show the importance of trees in absorbing pollution in the atmosphere, which threatens residents respiratory health, and particularly that of children, as well as affecting their brain-development in the case of some pollutants.

The AMA group, "Doctors for the Environment" also emphasise the need for greenery to reduce the dangers to health and mental health of urban concrete heat-radiation and other pollution and an unnatural preponderance of concrete.

The need for more housing should not be met at the cost of these human and environmental considerations. There are many urban and suburban examples of good, environmental design from around the world which provide decent housing, without destroying the very environment which people need for their well-being, and which help protect against the dangers posed by climate change without adding to destructive emissions. Adelaide should take a leading role in setting design rules which will set such an example, rather than allowing the demands of those developers who merely wish to maximise their profits without considering the environment or the real needs of residents.

Therefore, I think the standards must include:

That all new housing is to incorporate:

- the highest- quality insulation in walls and ceilings
- either verandahs or wide eaves to provide shade to North-facing facades
- solar panels on rooves
- solar-thermal hot water installation
- thick walls, of the best heat-resistant material which is available and affordable at the time
- vegetation providing significant covering for at least one third of the block (ie, trees and shrubs, vegetables, and a portion of lawn if needed, but not just token cacti, for example)

Some references:

"Green infrastructure as life-support...", SD Pitman, CB Daniels, ME Ely, Transactions of the Royal Society of SA, 139(1), p97-112

"City Life: New perspectives in urban ecology-- conclusions", G Johnston, "CB Daniels, (Journal of) Australian Ecology, 31(2), p291-292.

"Creating Sustainable Communities in a Changing World", PEJ Roetman, CB Daniels (Crawford House Publishers, Aust, 2011)

Yours sincerely,
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From: [Olga Farnill](#)
To: [DPTI:Planning Reform Submissions](#)
Subject: Draft Planning & Design code
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Summary: The revised Code states the important aims of improving climate-resilience, green space and energy-efficiency. But the revised regulations contradict these aims. Suggestions are made for some alternative means of achieving these aims, while increasing development .

The policy discussion paper "People and Neighbourhoods" (Sept., 1919) states that the aims of the Code include the mitigation of "the rising impacts of climate change" (p 16) by such objectives as:

"to strive for balance between more compact urban design form and increasing green space, to mitigate urban heat island effects" (p16),

"to provide greener streets and contribute to tree canopy targets" (p45),

"to prioritize energy-efficient building design and water-sensitive urban design" (p16),

"to provide green infrastructure and water-sensitive urban design" etc (p57-59).

These are essential and laudable principles, as are many of those stated in "The 30-year Plan for Greater Adelaide", which includes a call for an increase in tree-cover. Many studies have shown the importance of trees and green space in urban and suburban environments to control extremes of temperatures, improve micro-climates, reduce pollution and greenhouse gas emissions, and for the amenity and physical and mental health of residents, for education and to foster community spirit (see particularly Prof Chris Daniel's researches).

However, the revised regulations contradict most of these stated aims, since the following changes will have the effects of reducing green spaces, gardens and tree cover (also increasing water run-off instead of allowing it to percolate through soil):

- reductions in minimal residential allotments
- reduced boundary setbacks from the side and rear of blocks (already too small)
- increased commercial developments in residential streets
- more dense and larger developments requiring more tree-removals.

Adelaide is seen as a particularly liveable city. However, it is becoming rapidly less so, with the huge reduction in vegetation and tree-canopy over the years. This reduction is noticeably accelerating, the regulations on tree removal having been already loosened several years ago, in spite of all the submissions against this by Doctors and many others. Climate resilience and amenity are rapidly being reduced, and this trend is being reinforced by the current Draft Planning and Design Code.

The proposed Code also reduces residents' democratic rights to comment on many development applications that can affect them.

These trends need to be reversed if SA's cities and towns are to remain liveable and resilient to increasing climate change, if residents' health and well-being, and the environment are to have at least a minimum of protection.

Therefore, if new residences and developments are required, there are alternative plans possible, along the following lines:

1) Inner City

- increase density in inner city areas through high-rise units, of high-quality building design and materials; this would also reduce commuting to work and cultural activities

- mandate such high-quality design and materials, including the highest-grade insulation (for both temperature and noise-control), and using the latest "green design", including large roof gardens, energy and water-conservation methods, thus making inner-city dwelling attractive to more residents. Shoddy materials and design, for the sake of cost-cutting, decrease climate-resilience and liveability.
- educate builders and residents that any increased expenses in producing high quality, resilient buildings, can be offset by later much-reduced power and water-costs, reduced need for cars and travel, and longer-lasting, more attractive dwellings, and perhaps savings in some materials.
- allow more green spaces in towns and cities
- apply the results of the current "Cool Road" experiment in Adelaide to as many streets as possible, and reducing heat-increasing surfaces on buildings.

2) Suburbs

- increase the height of dwellings allowed, but greatly reduce the footprint of buildings on the block (instead of allowing dwellings to cover most of the block), in order to create greater garden space for trees , shrubs, etc
- mandate a significant area for greenery, with a minimum of concrete or paving around dwellings. Those who dont wish to care for gardens could plant minimum- care shrubs and evergreen trees, or native lawns (suggested below)
 - through education of plant-nurseries and gardeners, promote the growing of appropriate native grasses, such as short austrodanthonia, or for shady areas, microlaena , which need minimum water and mowing , or dichondra for lawns; and those native and other plants which are heat-tolerant and provide green cover.
- mandate climate-resilient and power-conserving design and systems in new dwellings, such as grey-water systems, highest-grade insulation, wide eaves or verandahs (noticeably missing in most currently-built new houses), solar panels, solar-thermal systems, water-tanks, "cool" materials rather than concrete, etc.
- subsidise some systems not already subsidised, such as installation of power-storage batteries and water-tanks.
- instead of adding commercial developments to currently residential streets, more retirement villages, and small nursing- homes (which will be increasingly needed by the ageing population), may be a better way to provide more (down-sized) residences in a smaller area than normally taken up by a few large suburban houses, while adding garden space.

In summary, a truly "green", climate-resilient plan would not only make Adelaide and its suburbs more liveable, but also a model for other Australian planning codes. To achieve this, cheap and shoddy building needs to be replaced by well-designed dwellings which have a smaller "footprints" on the land, and density increased as above, without encroaching on green space.

Olga Farnill