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# SUSTAINABLE ARCHITECTURE

Without exaggeration, sustainable architecture could be the difference between depleting the planet to extinction, or maintaining life as we know it. Meet three Australian architects leading the charge in sustainable practices

By Tracey Hordern

**sus-tain-a-ble adjective**

1. able to be maintained, exploiting natural resources without destroying the ecological balance

**ar-chi-tec-ture noun**

1. the art and science of designing and constructing buildings







**SINCE THE INDUSTRIAL REVOLUTION**, we have witnessed vast technological advancements, population growth, and corresponding increases in resource use — and wastage. Now into this new millennium, we are seeing the beginnings of the repercussions of our ‘progress’. Some of these consequences include pollution, toxic waste, deforestation, global warming, dramatic weather changes and the depletion of the ozone and our natural resources.

These imbalances are straining the earth’s capacity to sustain life while retaining the capacity to regenerate and remain anything like a viable concern for the long term. As the world’s population continues to grow, the implementation of sustainable measures in all areas of human activity is imperative for our survival.

The built environment is one clear example of the impact of human activity on resources. Buildings obviously have a significant effect on the environment, accounting for a sixth of the world’s freshwater usage, a quarter of the planet’s wood and almost half of its material and energy usage.

Buildings also impact on areas beyond their immediate location, affecting the drain on resources and air quality, while at the same time defining the transportation patterns of communities. For most of the western world, buildings represent more than half of their country’s wealth. To protect that investment, indeed to grow it, sustainable architectural practices are essential.

But what exactly are sustainable practices? There are obviously many definitions, but most essentially sustainable practices translate to meeting the needs of the present without compromising future generations. Quite

simply, the idea of environmental sustainability is to leave the earth in equal or better condition than how we found it.

In terms of sustainability, architecture presents unique challenges. Construction projects typically consume large amounts of materials and produce tons of waste. Sustainable architecture can also be defined as those buildings that have minimum adverse impact on the built and natural environment, their immediate surroundings and the broader environment.

Sustainable building involves considering the entire life cycle of buildings. In the past, attention has been primarily focused on the number and size of buildings and issues of quality have barely been considered. However, as the building and housing market is now saturated in most developed countries, the demand for quality sustainable building is growing in importance. Accordingly, policies that contribute to the sustainability of building practices should be implemented and governments should be actively encouraging these.

Man is the only species to produce waste that can be broadly toxic and build up for long periods of time. Waste and pollution are bi-products of gross unsustainability, demonstrating inefficiency and representing resources that are no longer available for use and/or create harm to the planet and its inhabitants. A truly sustainable society would eliminate the concept of waste — as a Chinese proverb wisely declares, “Waste is a resource in the wrong place.”

Sustainability can meaningfully revisit the concept of *needs*; the conditions for maintaining an acceptable life standard for all people, based on the capacity of the environment to fulfil the needs of the present and the future. Meet three of Australia’s leading architects that are addressing our true needs by implementing, indeed championing, sustainable architectural practices.

### **STEVE KENNEDY, KENNEDY ASSOCIATES ARCHITECTS**

Kennedy Associates Architects is an architectural and urban design practice based in Sydney. The practice was formed by Steve Kennedy in 1994 and has designed dozens of residential projects, from small alterations and additions to large multi-unit developments, becoming recognised as one of the leading residential practices in Sydney, with several of its projects being adopted as benchmarks for urban development.

Kennedy Associates has developed an equal reputation for its urban design and environmental expertise, as well as its work on a broad range of institutional and community projects, from hospitals and community facilities to childcare centres and church facilities. Fundamental to Kennedy Associates’ philosophy is its commitment to the broader issues of urban planning and ecological sustainability within the urban context.

Kennedy Associates believes good architecture only derives from an understanding and a commitment to the principles of urban design and sustainability. In particular, Kennedy Associates believes sustainability is now recognised not only as one of the fundamental factors in city planning, but also one of the guiding principles for the design of all architectural projects.

Currently, Steve Kennedy and Associates is working on, in Steve’s words, “A range of residential and community projects, from some very interesting private homes to mixed-use residential and commercial projects. We are also designing a new educational facility at Mount Annan Botanic Gardens and hopefully we are about to start two other very interesting community buildings.”

Citing projects which have sustainability principles at the core, Kennedy explains, “Several of our current projects continue our experimentation and innovation in sustainable architecture, such as a very innovative townhouse development in Sydney, which incorporates a variety of environmental initiatives such as straw bale construction. We are fortunate that we have a growing private and public client base, many of whom are interested in our approach to architecture and the integration of sustainable thinking with contemporary modernist architecture.”

But what sets Steve Kennedy’s sustainable architecture work apart from



“It’s about making the principles of sustainability an essential element of your design approach.”

— Steve Kennedy

Kennedy adds: “The current dominant idea in housing is to build houses which are utterly dependent on mechanical methods for their comfort, such as airconditioning, whereas careful and intelligent design can eliminate almost all of that, making buildings both healthier to live in, less demanding on their environment and less expensive to run. It makes a lot of sense and does not involve a loss of amenity, but people have to shift their thinking to see it.”

Specifically, what exactly makes Steve Kennedy’s work sustainable? “What we are doing is achieving buildings which are more holistically integrated in their purpose and performance,” answers Steve. “To date, our focus has been on water and energy but there is a lot more to address and I would not say our work was as yet really benchmarking sustainability; rather, we are edging closer towards it, sort of benchmarking milestones and achieving them, then moving on. We have yet to deal with a lot of other issues beyond water and energy, the most difficult of which is the

others? According to Steve, “It’s about making the principles of sustainability an essential element of your design approach. It’s not about having a building which looks remarkably different from other buildings. People get the idea that sustainable equals some sort of hippie shack, whereas it’s really about performance and scale — using the environment to your advantage rather than trying to combat it.”

issue of size. No one has yet addressed the fact that society continues to build houses that continue to grow in size, while our family sizes continue to shrink.”

Kennedy believes his work has evolved over the past few years. “I think the approach we have taken to sustainable design has given us insights into how to evolve our architecture beyond the traditional modernist thinking we had previously applied.”

But in which direction does he see Australian architecture, and specifically his work, going? “Australian architecture has developed enormously in recent years and is currently in a very good state, with many excellent architects throughout the country. I think there is a very strong interest and commitment amongst most architects to protect and repair our natural environment and as part of that, to take on a leading role in advancing the thinking of sustainability. We are lucky that we have a country with a growing sense of its national identity and architecture has always been used to reflect and define that.”

Which Australian architects does Kennedy admire? “There are numerous from across many generations, beginning with Francis Greenway, our first architect and still one of our finest. The architects I admire are those who have shown an intense intellectual rigour and commitment to their work and ideas — theirs are the buildings that stand out and become important cultural artefacts.”

Does Kennedy think there is such a thing as Australian architecture? “Definitely — we even have stylistic differences between states, reflecting both the climatic and demographic differences of this vast and diverse country. However, I don’t think it is for us to identify. It’s for others — people outside our environment who can see such things more clearly. For example, I have been approached by a professor of architecture in the US who is writing a book on innovations in sustainable architecture in Australia, who sees what is happening here as really interesting and different enough from what is happening in the rest of the world to write a book about it.

“The thing to bear in mind is that in the current world, the differences between cultures are becoming more subtle than they were in the past. So don’t look for a radically different style so much as a localised quality. It’s what Kenneth Frampton talked about as ‘critical regionalism’ — and this is where sustainability comes back into it — allowing the environmental, cultural and economic factors to have a direct and manifest role on our architecture. It’s not rocket science, though it is also not as obvious as it might appear.”

### CAROLINE PIDCOCK — CAROLINE PIDCOCK ARCHITECTS

As the immediate past president of the Royal Australian Institute of Architecture and now the President of the Australian Sustainable Built Environment Council, Caroline Pidcock and her firm specialises, and indeed excels in, ecologically sustainable architecture.

While Caroline Pidcock Architects (CPA) specialises in ecological sustainable design, it also aims to learn about, understand and continue to produce ecologically sustainable architecture.

Caroline states her firm is currently working on “some really interesting new houses in Sydney and country New South Wales, as well as some exciting Environmentally Sustainable Design (ESD) projects where options for sustainable design are being explored”.

As Pidcock explains, “One of the big things becoming more obvious is that people need to be designing energy-efficient buildings. This is a tidal wave; you are either going to catch it or be dumped by it.” Evocative words indeed, and words that are equally matched by enthusiastic action.

When asked for her views on practical sustainable practices, Caroline Pidcock likes to view sustainability in broad terms. “Is it the planet we are trying to sustain? We need to look broadly, for example, the eco footprints we leave on this planet. It’s one thing to say you have a well-designed house and that it is a good house environmentally in energy usage, and that it is comfortable to live in. But if we are trying to sustain the environment, we

