

Environ Q&A

Experience tells

WHILE REGULATIONS NOW FORCE DESIGNERS TO GO GREEN A FEW TOOK THIS PATH YEARS AGO. WARREN MCLAREN TALKS TO A COUPLE OF ESD PIONEERS.

● The partnership between Judy and Andreas Sederof from Victorian-based Sunpower Design has been winding the flywheel of sustainable design for a quarter of a century, winning a slew of awards in the process.

Not only do the couple include in their practice's work ethic the low hanging fruit of green design, like choosing recycled or plantations timbers, they also strive for harder won results such as the recycling of construction and demolition (C&D) 'waste' from the site, as well as the design of alternative (non-fossil fuel based) energy and greywater. "For me it is a race to save the planet and sustainable design is the most creative way I can contribute to winning that race," says Andreas.

Here, *Environ Magazine* (EM) taps into Sunpower Design's (SD) experience to reflect on the wisdom Andreas and Judy have gleaned from their years of experience as environmental design practitioners.

EM: What hurdles have you had to jump to make environmental housing design thinking a step closer to mainstream?

SD: Our work is by no way mainstream yet. There are changes in energy efficiency standards for all buildings, but none of these regulations include the facilities that our buildings incorporate as a matter of course. The industry still has a long way to go, and we are still way ahead of the norm. Most of our current buildings are more than 80 percent self sufficient in heating and cooling requirements, water and power.

EM: Similarly, where and when have the breakthroughs occurred that pushed the industry forward?

SD: Legislation has been the major factor, but 5 Star is still a minimal standard. All our new homes achieve 7 Stars on the rating, which is 4.5 times more efficient than 5 Star. BASIX in NSW achieves sustainability in the areas of power, water harvesting and reuse, and landscaping.

EM: Sunpower offers services not usually associated with residential designers or architects such as greywater, C&D waste management and alternative energy systems. Did your practice begin with these services, or have you added them to your package as the business has grown?

SD: We began designing passive solar buildings before the market was aware of what they were, and then expanded to introduce sustainable systems, such as photovoltaics, greywater recycling, rainwater catchment, low toxicity finishes, etc., as we could see this was the way the future was heading. We wanted to establish our firm as leaders in the field before other firms started catching up. We have now achieved 25 years of experience and there are very few other practices doing the kind of work we specialise in.

EM: What makes your in-house greywater system different from others?

SD: To the best of our knowledge it is the only Class A water treatment system, that can be stored indefinitely for less than \$4000. It is particularly suited for tight and small sites. It is very suitable for inner suburban buildings. Class A means it can be surface irrigated and used for washing machine water. We only collect greywater from showers, baths, vanities and washing machines, not kitchens and laundry troughs, to reduce chances of contamination. The system is then plumbed to flush toilets and irrigate the garden. The ozone system sterilises the greywater, making it safe for any garden application. We expect to have it in the market place by this Christmas.

EM: Sunpower has employed some younger architects in recent years. Do you discern any change in the level of enthusiasm for eco-design amongst emerging architects/building designers and secondly are our tertiary institutes providing the appropriate education in this field?

SD: Absolutely, we constantly get enquiries from young graduates for employment as there are only a few firms where they can gain experience in this field. There is still completely insufficient training in sustainability issues in any integrated way at most universities, although Deakin does a good job. It is still considered as an add-on subject, rather than a design philosophy.

EM: What advice do you have for budding green architects and building designers?

SD: The secret of sustainable design is the integration of the engineering services. Work with a great engineer, who is flexible, get some basic knowledge in thermodynamics and renewable theory and gain a strong background in plumbing systems to make this integration possible. To meet the demands of the market sustainable buildings have to look great as well as perform well. You don't want the sustainable items to be added on at the end of the design process.

Sustainability needs to drive the project from the beginning.

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Every project Sunpower works on is specifically designed for the site and climate.

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EM: Having worked with the Society for Responsible Design for the past 10 years, I've noticed that often many of our enquiries have been from private home owners. They have been the drivers, challenging their architects or builders. Have you observed a similar reluctance to embrace change? Has this altered with the implementation of BASIX and Five Star schemes?

SD: Yes, it is a very conservative industry and change has to come from the consumer first. The change will be market driven not from within the industry. We have noticed the public are much more aware of issues such as global warming and clean energy. What is poorly understood, however, is that energy efficiency measures are a six hundred percent more efficient way of reducing greenhouse emissions than trying to generate cleaner energy from brown coal, for example.

EM: Can you pinpoint the reasons that motivate your customers to choose a green design for their home?

SD: Concern about the environment is their primary motivation. The secondary motivation would be superior comfort conditions and ongoing energy costs, particularly in their retirement.

EM: In working from Tasmania to NSW, how have you needed to adapt your design thinking to different climate and terrain? Are some eco-attributes harder or easier to integrate in certain locations than others?

SD: Every home we design is specifically designed for the site and the climate, Tasmania has a classic passive solar climate, as it is cold but Hobart has more sunny days than Melbourne, for example. This is what makes our work interesting to us, each site is totally unique and each client has different requirements. It is not just about providing a roof over their heads—the relationship between designer and client is at the core of the project. The most difficult sites are inner city sites where solar access is limited and planning regulations can inhibit the design freedom. Heritage issues have to be juggled with sustainable features, such as not making solar hot water visible from the street.

EM: Where once your expertise was hard won and a niche, how do you see your business developing in a market, which now includes the likes of broad-based initiatives, such as Ecospecifier and BASIX?

SD: Because of our engineering and building design background, as well as extensive construction experience, we are still ahead of the market.

Ecospecifier makes architects and designers more aware of the materials available on the market, but they can only gain experience by producing the buildings in the market place.

BASIX is the next step in our legislative process, but there is a time lag while practices catchup and get the necessary experience. We have experience and made our mistakes early. We also only have another 10-15 years in the business, before we retire and leave it up to the younger green designers.