

About the Finalists

Bernadette Lewis

"I have worked in the residential housing sector for 25 years, primarily in volume building. I achieved my energy rating qualification and registered in 2001 and have a keen professional interest in the practical application of cost-effective design solutions within accepted conventional construction methods to provide comfortable sustainable living."

"My objective was to create a 10 star home that was not only affordable, but also to design a space in which a family could comfortably live. Using common local building practices and available trades, albeit with a little imaginative twist, the 10 star outcome was achieved."

Lifeshouse Design with Crosby Architects and Lewin Consulting

The collaboration between Lifeshouse Design, Crosby Architects and Lewin Consulting for the 10 Star Challenge developed from a shared vision to explore less energy-intensive building methods and products. This is supported by a genuine interest in wine, and creating more socially conscious, pleasing built environments.

Paul Hassall from Lifeshouse Design said "A more sustainable built environment can be achieved through reducing the consumption of non-renewable resources by embracing 'sustainable' and 'green' technologies. Yet beyond this we can also strive for good, thoughtful design that improves, educates, and supports human health and adapts to societal changes."

Maxa Design

Maxa Design specialise in, and are passionate about, designing innovative energy efficient and environmentally sustainable buildings. In conjunction with traditional building design services, Maxa Design review each and every project's opportunities and constraints in regard to becoming more sustainable, and therefore more energy efficient. "Our passion and experience are the driving force in developing designs that make a point of difference," said Sven Maxa.

"Maxa Design were very excited to hear of the BDAV's 10 star challenge; in particular the opportunity for designers to showcase their knowledge of energy efficient design principles. The 10 star objective is another initiative by the BDAV that will further advance consumer awareness of BDAV membership and skillset – well done BDAV!" added Sven.

Positive Footprints Pty Ltd

Positive Footprints is a design and building company that specialise exclusively in leading edge sustainable design. "By combining both the designing and building into one company, we ensure the integrity of the vision is achieved, with homes that are beautiful to live in, and which tread lightly in style" said Jeremy Spencer.

"The 10 star challenge is simply the most important design competition in Australia today. At a time when major building industry players are bemoaning how difficult 6 star compliance is, here is a competition that shows what is possible, and how to achieve seriously low operational footprints in an economical fashion. It is competitions like this which inspire and educate, and help to move the building industry in a more sustainable direction. Positive Footprints is proud to be a part of it!" said Jeremy.

Sunpower Design Pty Ltd

Sunpower Design are specialist designers of energy efficient and sustainable homes, with over 30 years' experience. Sunpower designed buildings become an investment for future generations, by inspiring clients who want to make a difference to their environmental impact, significantly reducing their energy consumption at the same time creating aesthetically exciting space to live in.

This was a joint submission by Sunpower Design's Andreas Sederof and Kristine Sommerfeld, who said "The 10 Star challenge was an exciting project which broadened our scope to achieve a building that requires no heating and cooling, without compromising aesthetic and function. We are delighted that we can now clearly see that 10 Stars is an achievable and cost effective proposition for our clients who wish to push the envelope."



FLIP_FLOP HOUSE

Lewin Consulting **CROSBY architects** **LIFEHOUSEDESIGN**

10 star challenge : home #2



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10 Star Challenge
South St, Melbourne, Victoria
Positive Footprints Pty Ltd

Drawn by: [Name]
Checked by: [Name]
Date: [Date]



10 Star Challenge Finalists

by *Tim Adams, BDAV President*

23 entries were received in the first phase of the BDAV's 10 star challenge. The Building Designers Association of Victoria is extremely pleased with this response which vindicates the position that BDAV is the "go to" place for high quality sustainability solutions. The feedback from entrants is that the involvement has been extremely rewarding due to the process stretching the skills to that ultimate position where the result is a house which is totally passive from a thermal comfort perspective.

We also know that many other members embarked on the challenge but for want of time have fallen just a little short of the 10 star goal and have developed designs in the mid to high 9 star range. Hopefully over the next 12 months these members will be able to allocate the resources to further develop the fine details and bridge the gap to 10 stars. Those submissions will then gain recognition for achieving the zero energy target and be eligible for judging as the best submissions in 2012.

Entrants in the BDAV's Inaugural 10-Star Challenge – each achieved 10 Stars in their submissions:

- Advantage design/draft in conjunction with Butler Energy Efficiency Ratings
- Design Unity
- Effective Thermal Solutions
- environ design & consultancy
- F2 Design
- Jason Gloz
- Ikonmidis Reid
- Impact Design Consultants
- Lead Design (William Ling Lin)
- Bernadette Lewis
- Lifehouse Design in conjunction with Crosby Architects & Lewin Consulting
- Maxa Design
- David Palmer, Andy Bancroft and Glen Campbell
- Positive Footprints Pty Ltd
- Rujun Rao
- Logan Shield
- Siân Willmott and Caitlin Conley
- Studio G Architecture in collaboration with Cundall
- Sunpower Design Pty Ltd
- Sustainability House

The diversity of solutions submitted has been of great interest, as it clearly demonstrates that stringent thermal performance criteria are no barrier to innovative and widely divergent architectural expression.

Form making has ranged from the traditional and conservative to avant-garde and whimsical. Some will allow for seamless integration of solar appliances into the form making, while others will rely on the more industrial expression of frame mounted installations. Rainwater collection will similarly be more easily dovetailed into some layouts than others. Interestingly, the need for solar appliances is greatly diminished in these houses, due to the fact that they have no need to offset heating or cooling energy demands. Some siting solutions went well beyond energy performance considerations to embrace full siting response considerations, with well resolved landscape arrangements including vegetable patches.

It was concluded during the judging process that the most successful solutions exhibited a clear understanding of thermal design principles, efficient plans leveraging the most usable facility out of the least building size and admirable architecture. Most designs included the use of high performance triple-glazed windows, but the level of excellence in a couple of examples enabled them to do the right stuff with more modest double-glazing. One project with a green/turf roof again illustrated the potential diversity of approach when pitted against more traditional framed roof solutions.

All the elements contributing to high thermal performance were sprinkled throughout many of the designs. Insulated slab on ground floor structures complemented by reverse brick veneer walls and spine walls with thermal mass, adjustable shading over north side glazing, clerestory windows to admit passive solar gain deep into the floor plan and good potential for cross ventilation with summer night purging all featured regularly.

Although some submissions have been designed and rated by individual members, another gratifying outcome has been the successful collaboration of some designer members working closely with thermal performance assessor members.

After lengthy discussion and detailed deliberation it was the all round quality, showing comprehensive integration of a full range of design skills that lifted the short-listed finalists above the high quality of the other submissions.

The judges made the following comments about the finalists' submissions :

Bernadette Lewis has delivered a simple cost effective dwelling with very modest specification including double-glazed windows, with an architectural expression that would not be confronting to a vast majority of conservative house buyers.

Lifehouse Design in collaboration with Crosby Architects and Lewin Consulting have 'ticked the boxes' and given us a sophisticated, simple, elegant, house with a two-storey component. The modular wall treatments would facilitate minimisation of construction material waste and reduction of inefficient site labour processes.

Maxa Design submitted two designs and their second submission is one of the smallest solutions. The compact, efficient layout would give one of the best opportunities for 10 star performance to be made available at the lowest entry cost.

Positive Footprints have resolved a simple rectilinear layout with thermal mass spine wall and delivered north solar access into south side bedrooms via a row of clerestory windows. In addition to winter gain, these high level windows will allow for the best access to summer night purging ventilation in a single storey house.

Sunpower Design designed a refined, sophisticated solution that combines a swoopy main façade which facilitates earlier morning solar access to the north-east and a roof drainage arrangement that all heads in the one direction, to the water tank. The services zone of the floor plan is topped by a north facing skillion roof for integration of solar appliances.

The BDAV thanks all those members who made the substantial commitment of time and energy to participate in the 10 star Challenge, and we hope that others will be encouraged to participate in the future. The clear indication is that the effort has been well rewarded by enhanced development of design skills that will be invaluable in future work. The BDAV also thanks Kingspan Insulation for sponsoring the Challenge.