



Living buildings



WORDS

Caroline Pidcock

Caroline Pidcock is director of Sydney-based architecture firm Pidcock – Architecture and Sustainability. www.pidcock.com.au

Caroline Pidcock introduces a building standard that goes several steps beyond basic passive solar performance and energy efficiency, aiming to diminish the gap between current limits and ideal solutions.

AS A SANCTUARY READER, I KNOW YOU ARE LOOKING FOR ideas for your home that will make it a wonderful place for you and your family to live. How would you feel if your actions to improve your living space could also help you be part of a bigger, inspiring movement that aims to create a “socially just, culturally rich and ecologically restorative” future for us all?

Developed in the USA and launched in 2006, with the first buildings certified in 2010, the Living Building Challenge (LBC) is a rigorous performance standard for the built environment. It calls for the creation of buildings that “operate as cleanly, beautifully and efficiently as nature’s architecture”.

Going beyond basic considerations of building sustainability, the LBC is a framework for our built environment that asks what a true sustainable answer to our housing and lifestyle challenges actually looks like. And how is a new approach going to be positive

and regenerative? Happily, the framework guidelines are also poetic and inspiring, recognising the importance of beauty and delight in achieving sustainable outcomes.

It should be acknowledged that it is called the Living Building Challenge because it is a challenge. There are many considerations it raises that in today’s world are not standard practice, and need to be approached in ways that are outside the normal way of thinking and doing. The Challenge asks you to imagine “a building designed and constructed to function as elegantly and efficiently as a flower: a building informed by its bioregion’s characteristics, that generates all of its own energy with renewable resources, captures and treats all of its water, and that operates efficiently and for maximum beauty.”

Wow. Not just less bad – but truly good and beautiful. And inspiring. →



The Bull Street Terraces aim to provide an alternative development model that doesn't add to urban sprawl. The design includes a productive north-facing roof deck as part of the LBC requirement for 25% of the site to be used for agriculture. The terraces will have a near net-zero energy production and a zero carbon footprint. The project is one of only around 10 in Australia that have registered for LBC accreditation.

What does this mean for your own home? At the very least, it provides a framework for thinking through the whole project to ensure you are covering all the necessary elements for a comfortable and high-performing house for the long term. It helps extend the boundaries of what you believe can be achieved. As Michelangelo said, "The great danger is not that we aim too high and miss the target, but that we aim too low and hit it".

If you do embrace the LBC principles in the planning and construction of your home, you can apply for Living Building certification. To be certified under the Challenge, projects must meet a series of ambitious performance requirements in seven categories called Petals: Place, Water, Energy, Health & Happiness, Materials, Equity and Beauty. A number of these are unique to the LBC approach, and they are indeed challenging! I would like to share some of the key LBC considerations with you.

PLACE

Projects may only be built on previously developed sites that are not impacting on sensitive ecological habitats. This is in recognition of the fact that the human race has taken more than its fair share of habitat around the world already, and we need to leave what is left for other species and food production. In addition, the project must ensure the place is improved through the project's implementation.

A Living Building must incorporate "place-based solutions and contribute to the expansion of a regional economy rooted in sustainable practices, products and services." A good building should assist in strengthening the community it is in and reflect the skills and materials that are locally available. It can then be more grounded in its place.

FOOD PRODUCTION

To help reduce the pressure on habitat around the world for food production, every project needs to integrate appropriate opportunities to grow food for its occupants. This may involve thinking creatively about roof and wall as well as ground level gardens.

TRANSPORT

Each project must contribute to the creation of cities that are designed around people and at a human scale, and reduce the need for cars. For our homes, firstly it's important to select the location for its proximity to places visited regularly; then to work out how we can reduce the impact of our necessary transportation through car share, bicycle use and public transport.

WATER AND ENERGY USE

An LBC project must aim to capture and naturally treat at least as much water as the occupants require, while having a positive impact on the water ecosystem in which the project is placed. This will allow us to be water independent. When coupled with good storage systems and design, we can create systems that continue to work even after a catastrophic climate event such as a cyclone or bushfire – further resilience. Living Buildings should also strive for energy independence. This means we should identify how much renewable energy can be harvested on site, and shape the size and design of the building around this so that we produce more energy than we need.

HEALTH

A healthy internal environment is fundamental to any good building. Creating environments that optimise their occupants' physical and psychological health and wellbeing starts with things as simple as having openable windows in every room that provide access to fresh air and daylight. In addition, of course, healthy buildings should not use any toxic materials or chemicals. While this sounds obvious, it is astounding how many standard building materials contain toxic substances, and how few manufacturers are prepared to be transparent about what their products contain. An initiative of the International Living Futures Institute, the Declare label is an ingredients label for building products and has been developed to assist us in understanding the true background to and makeup of materials.

→



Geoff Crosby's planned 9 Star townhouse development for Castlemaine in central Victoria has been guided by the Living Building Challenge, and will apply for the certification once it has been occupied for a year. The project website will document its progress in an effort to assist others considering a similar approach: www.bullstreet.com.au.





The University of Wollongong's Sustainable Buildings Research Centre is the first in Australia to be seeking and tracking full Living Building Challenge certification. Image by Noel Downey.

Within the health qualification there is a requirement to include elements that nurture the human-nature connection. Biophilic design works on the basis that human health and wellbeing has a biologically based need to affiliate with nature. To achieve a design that takes our health and wellbeing seriously, we should begin the process with consideration of how biophilic design can positively influence the whole process.

EQUALITY AND INCLUSIVENESS

The LBC's Equity Petal states that the built environment of the future must foster an inclusive, just and equitable community. "A society that embraces all sectors of humanity and allows the dignity of equal access and fair treatment is a civilization in the best position to make decisions that protect and restore the natural environment that sustains all of us."

Participating businesses are called on to meet these ideals in the following ways:

- Make contributions to charities so the disadvantaged communities they work with can also enjoy renewable infrastructure such as solar panels or windmills;
- Demonstrate fair and equitable business practices.

BEAUTY

Importantly, Living Building Challenge projects should be beautiful! This will encourage people to love and care for them, giving them the greatest chance for long, low impact lives. They and their creators should also sing loudly and widely about what they have achieved so others will be inspired to stand on their shoulders and go further.

HOW TO GET YOUR BUILDING LIVING

The first step in achieving Living Building Challenge certification is to register your project. Once the building is complete and a full year of performance data under normal occupancy has been recorded, it's possible to apply for LBC certification. While no one has achieved the accreditation in Australia yet, there are already around 10 projects in Australia that have been registered with the LBC, and one that is actively seeking certification, the University of Wollongong's Sustainable Buildings Research Centre.

A truly sustainable project will have a collaborative team that is positively engaged with each other from the beginning, and any one of them can register the project. However, there are many projects that come to the LBC a little later and still manage to work with it in very productive ways. The Living Future Institute of Australia (LFIA) was established in 2012 in part to help the Living Building Challenge take root in Australia, and provides courses, advice and a supportive community for anyone wishing to undertake an LBC project.

While this might sound challenging and hard (which it is), the Living Building Challenge aims to set out the sort of future we need to create. While achieving full LBC Petal certification is ideal, partial certification is also possible. Even where certification is not possible, considering the Living Building Challenge framework will provide lots of ideas for making your home better than it is already.

The future can be great – we just need tools such as this to help guide our creativity in making it happen!

This is adapted from an article which first appeared on www.liveability.com.au

LINKS

Living Building Challenge: living-future.org/lbc

Living future Institute of Australia: living-future.org.au

Declare label: declareproducts.com