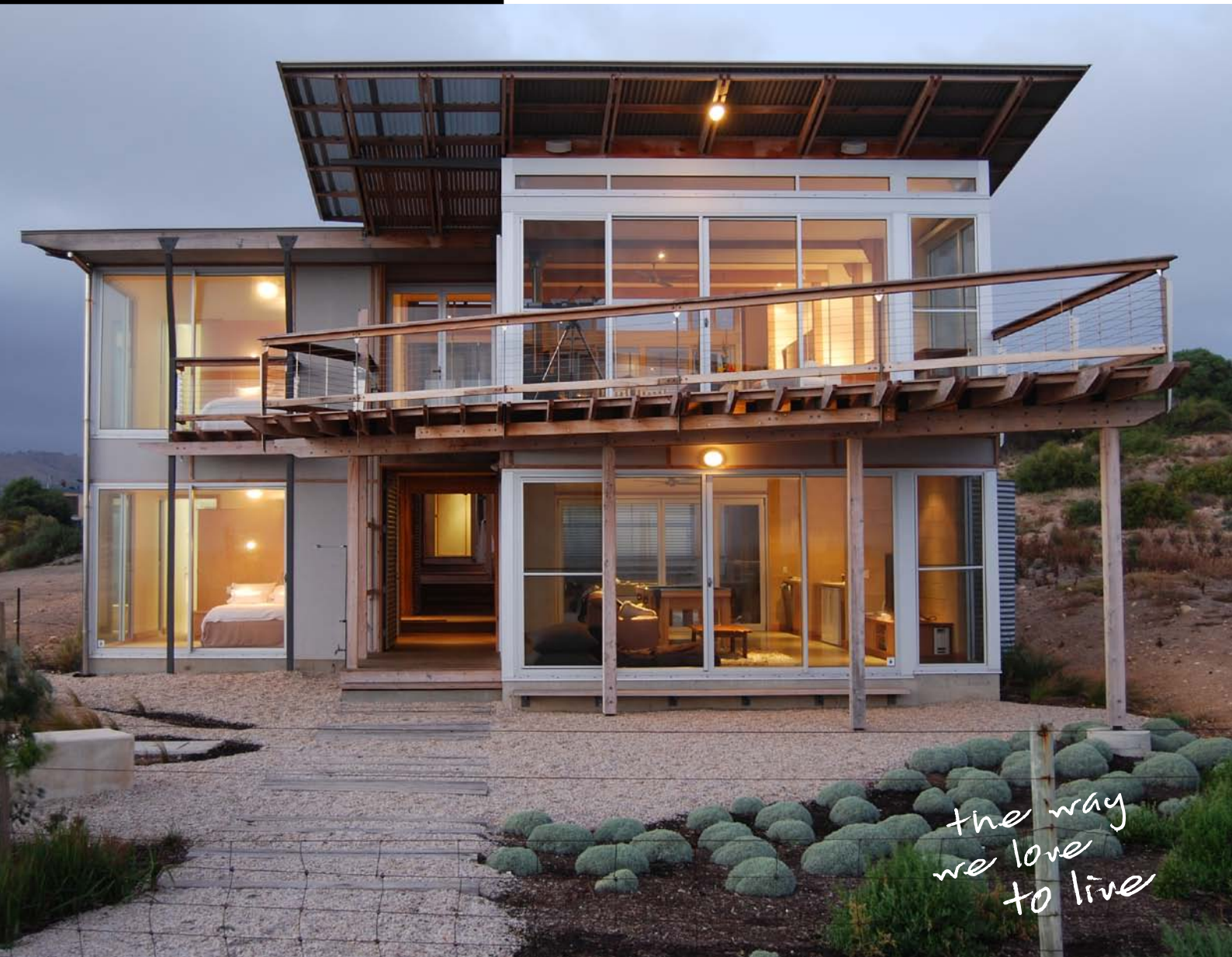


light HOME



the winter issue

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man of principle

Misho Vasiljevich – known simply as Misho – is passionate about creating houses that tread lightly on the world. And the Tasmania-based architect practises what he preaches, not only with his clients’ homes but with his own.

When Misho Vasiljevich moved from Sydney to Tasmania seven years ago, the decision was the result of firmly held convictions about changes he wanted to make in the way he lived. After 20 years in the harbour city, the move was only partly because he’d had enough of the hustle and bustle of a big metropolis.

“It was about walking the walk, not just talking the talk. It allowed me to live sustainably, which was the way I wanted to live,” says the architect and director of Misho + Associates. And the way Misho himself lives demonstrates how his work helps others have a lighter impact on the planet: he uses a photovoltaic solar-power system (that is also connected to the grid) at his own home, deals with all his sewerage on site and uses only water that he catches off his roof.

Misho, who not only designs residential homes but also commercial projects such as the current Hobart International Airport upgrade, is driven by a passion for sustainable building practices. He is appalled at the wastage that takes place in so many projects.

“I try as much as possible to reduce the need to replace materials,” he says. “We don’t have much material on this earth and we’re using it at a great rate. So for me it’s all about controlling the amount of material that constantly gets replaced. Take a sheet of Gyprock [plasterboard], for instance. Gypsum is getting more and more expensive, it’s getting harder to mine, harder to process, and we’re running out of it.”

Equally important to the way Misho works are ease and speed of building, and using lightweight materials is a key factor in lowering labour costs. “I don’t have patrons, I have clients, and they have budgets,” Misho says with a matter-of-fact tone. “Our industry is synonymous with blowing budgets, but it comes down to ‘buildability’ and the notion of putting something in place as quickly and efficiently as possible to reduce the amount of time and labour on site.”



PROJECT 1: MOUNT TAMBORINE RESIDENCE, QUEENSLAND (1990)

This home, overlooking the beautiful Lost World Valley in the Gold Coast hinterland, was Misho's first residential project. Built in 1990, its cantilevered design sits on a narrow piece of land and hangs over the edge of an old logging slip.

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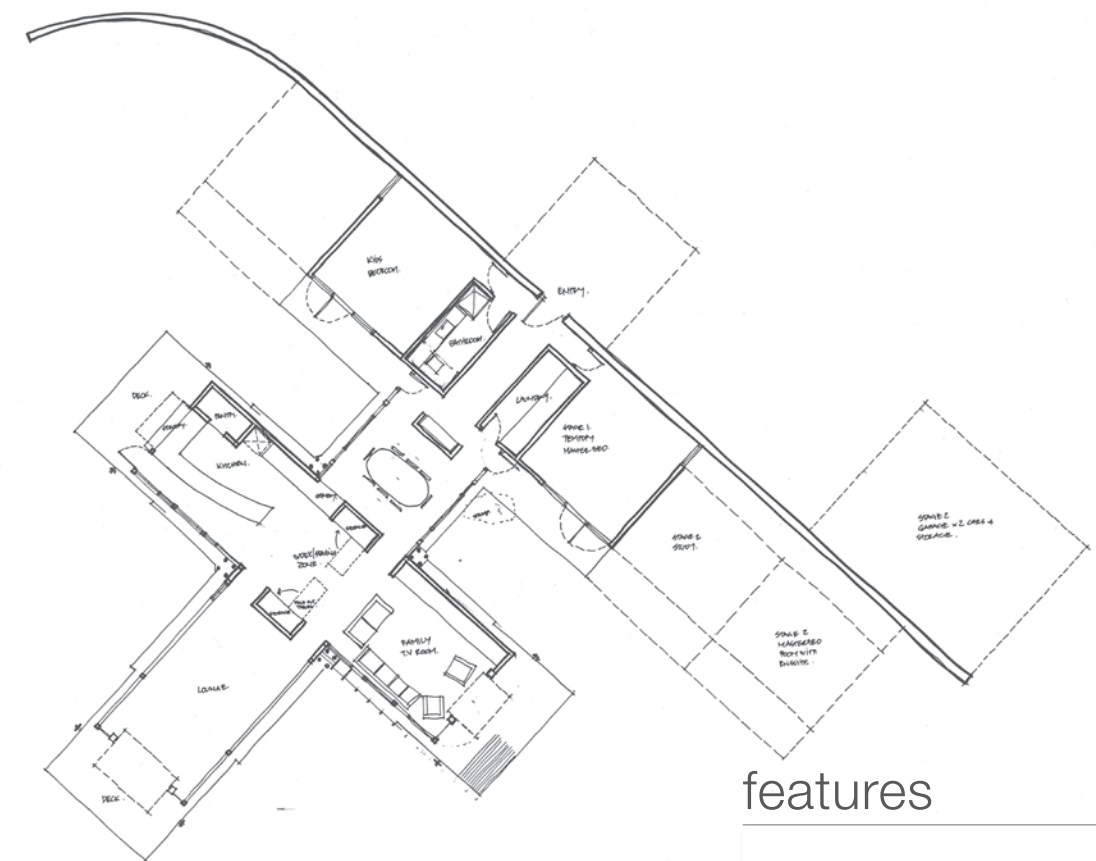
“It was built on unstable ground, so you couldn't have huge construction works or you'd cause landslides. It was all about touching the ground very lightly,” Misho says. “We dug footings at four points, like putting four fingers into sand. They stop the soil moving so the house just sits there comfortably.”

Misho placed a 30,000-litre water tank (filled by catchment from the corrugated-iron roof) under the home to act as ballast for the whole house. The tank was placed on top of a concrete ring beam that was supported in the ground by the four concrete structural piers that extended to a depth of eight metres into the site. Then a steel frame was erected to act as a central core, from which everything else hung “like a bridge”.

The construction process itself reduced costs. “Once the steel core was in place, we installed timber working decks from which the rest of the house could be built, instead of having to traipse around in the mud. That made it much more affordable because it became an easier site to work on,” Misho says.

The three-bedroom property uses plenty of timber: in its internal frame, for all the floors and for the external cladding, which is plywood. The lightweight materials, as well as being sustainable, also reduce the weight of the house on the footings.

What's more, wind generators and photovoltaic cells on the roof mean most of the home's power and heating are sourced naturally, and the home also boasts solar hot-water. “I was very interested in providing the owners with an off-the-grid scenario so they didn't have to rely on town water, the power grid or community sewer infrastructure,” Misho explains.



features

15 mm HardiePanel™ compressed sheet under the solid timber floor, as a fire barrier, thermal barrier and a bracing layer in the floor structure taking the bounce out of structural steel frames. The compressed sheet also helps control moisture loss and gain in solid timber floors which in turn helps stop cupping and splitting of the timber.

Despite its modern design, the house seems perfectly at one with the landscape and over the years has blended wonderfully with its environment, as Misho intended. “The last time I was there, the vegetation had grown straight up underneath the house so it feels as though you're on an upper-storey canopy of the forest.”



PROJECT 2: COALCLIFF RESIDENCE, NSW (2001)

More than 10 years after he designed the Mount Tamborine house, Misho was able to further refine his practices with a two-bedroom home in Coalcliff, south of Sydney. Working to a tight budget of around \$250,000 (in 2001), he devised plans that managed to gain council approval despite three previous architects failing in that process.

“The house was in a slip zone as a result of a 1988 railway embankment collapse in nearby Coledale, which killed a woman and her daughter in their home,” Misho says. “The previous architects had come up with fairly heavyweight conventional construction methodology, but I looked at it differently.”

Misho designed the structure to have a large number of 200mm-diameter timber piles placed into the ground to distribute the load widely and avoid concentrating it in one area. This would have put too much pressure on the foundations which could cause them to move suddenly.

As with the Mount Tamborine home, Misho used lightweight materials in the form of plywood and timber, with foam board on the underside of the house to act as insulation. A glazed corridor and balcony on the northern side maximises sun penetration and natural warmth, while corrugated metal cladding on the opposite side protects the house from the driving rain caused by frequent southerly storm fronts.

“I also had to take into account the close proximity of the neighbours on that side, so I installed timber screens on the windows,” he says. “Behind one of them is the bathroom, so you can be standing in the shower and look out to the ocean without worrying about the neighbours seeing you.” Talk about a room with a view.

features

HardiePanel™ compressed sheet to the sub floor structure.

Balcony soffits use Scyon™ Matrix™ cladding.



“ the previous architects had come up with fairly heavyweight conventional construction ...
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Misho's war on waste

Working in commercial design, Misho has been shocked by the wastage he's seen, because of the highly cyclical nature of style. "When you're involved with retail or exhibition design or office fit-outs, the amount of material that comes out of buildings and is thrown away is shocking," he says. "Very little of it is ever recycled, even though most of it can be. Some rubbish tips are slowly making it harder for people to dump products, raising their fees and forcing them to recycle."

Even so, he adds, it's better to design a building that requires little change, which is a theme he takes into his home designs. "Take Neil Perry's Rockpool restaurant in Sydney, for example," he says. "It's stayed consistent; it's had paint changes, it's had upgrades in the sense of very superficial improvements to its original 1988 design, but its backbone has remained the same."

PROJECT 3: HUON BOX RESIDENCE, TASMANIA (2009)

Misho's commitment to living equitably with the environment is perhaps shown no more clearly than in his own residence, Huon Box. Located in Huonville, a traditional apple-growing town in Tasmania's Huon Valley, it is a shrine to the potential of lightweight living and compact building. At just 38 square metres, it is also a shrine to the very concept of 'small'.

"As suburban sprawl has increased, homes have grown larger and larger, and are often lived in by only two people," Misho says. "And only a generation or so ago, small inner-city terraces had five or more people living in them; these days there's usually only one. It's just not sustainable, so I wanted to explore ways to live more rationally, and to see just how small a comfortable home could be."

Seeking inspiration for his design, Misho turned to disaster housing, homes that can be erected rapidly and clad with whatever materials come to hand. With this in mind, his brief was fairly straightforward: living in one room would be preferable to multiple rooms, and the building should be able to be completely recycled and have no lasting impact on the site. Despite Tasmania's challenging climate, it should also be simple to heat and cool and have low maintenance and ongoing costs.

Misho began by deciding on his materials first, electing a steel frame prefabricated off site, plantation-grown hardwood framing, four steel legs and plywood wall linings. Energy was a key factor in both the design and build, with



all materials chosen for their low embodied energy, and ceilings, walls and floors packed with R7 insulation to shield the home from sub-zero temperatures. Cross-ventilation was used to aid cooling while solar energy, both passive and photovoltaic, and vast rainwater tanks, were key sustainability features.

As for the future, "the entire building can be totally dismantled at the end of its life and re-used and recycled for its next life with very little energy cost, and leave almost no trace of where it once stood."

“the entire building can be totally dismantled ... and re-used and recycled for its next life”

features

Scyon™ Secura™ interior flooring for the floor sheeting.

Plywood cladding to the inner skin with metal paneling for the outer skin.

Balcony soffits use Matrix cladding.



Crabtree residence Tasmania

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Misho's latest residential project combines elements and materials seen in his earlier designs. Construction started recently on the three-bedroom house in Crabtree, south-west of Hobart, where a key factor in the design is how to deal with weather. The prime views from the home are towards the south, yet the property is exposed to high winds, being situated in an old stock paddock.

Misho decided to nestle the timber-framed home close to the ground on a concrete slab and has designed a corrugated-iron skin that curves up and over the building from the back, with VELUX® windows inserted like rear-facing roof windows to take in the views. To the north, a wall of double-glazed windows once again allows good sun penetration and warmth. These windows are surrounded by finished recycled timber supplied by a nearby saw mill and salvaged from a couple of bridges; the same wood is also used extensively indoors, adding warmth and avoiding the use of plasterboard, which the client hates.

More striking inside is the use of lysaght Mini Orb®, a form of fine corrugated metal that mirrors the external sheath. Lining the ceiling and stretching down to the floor, it provides a stunning and modern backdrop to the owner's furniture and possessions.



Solar collectors with vacuum tubes feed the hot-water system as well as the hydronic underfloor heating, while photovoltaic panels provide electrical power. “The aim was to make everything as sustainable as possible, and to keep running costs down,” Misho says. “Tasmania has the highest power costs in Australia per capita – we pay probably double what people in Sydney pay, despite the fact that we have hydro power.”

Water-catchment tanks and an Envirocycle blackwater-treatment system mean that all water will be sourced and treated on site. Another key factor in the single-storey home's design is that the owners see this as the last house they'll live in. “So it's all flat and has an oversized toilet and oversized bathroom in case either of them ends up in a wheelchair,” Misho says, adding that one of the clients says he'd like the view from the house to be the last thing he sees, without having to go into a nursing home. “It's all about them having a good quality of life in their later years and ageing in place.”

perfectly imperfect

Misho once told a well-known interiors magazine “society has gotten hung up on perfection”, and he hasn't strayed from that view. He believes consumers have been led to expect that every surface should look the same.

“That's why the composite panels for kitchen benchtops are so popular,” he says. “They create the ability to control the consistency of what they look like.”

He takes a different stance in his own work, using natural materials that are imperfect, such as different types of stone and wood. “Timber doesn't come in 5mm grains that all run in one direction,” he says. “A standard piece will show different textures, depending on its cut and the environment – for example, whether there's been a lot of water that year or there's been a drought.”

features

Secura interior flooring with bees wax finish for the wall finishes throughout. Secura flooring has also been used in all wet areas for the walls, because “they need to be strong for the fixing of handrails and wall hung shower seat”.