

Preservation Society

Asiacity's intriguing 'Living on Edge' concept foresees a sustainable community able to survive the worst effects of global warming

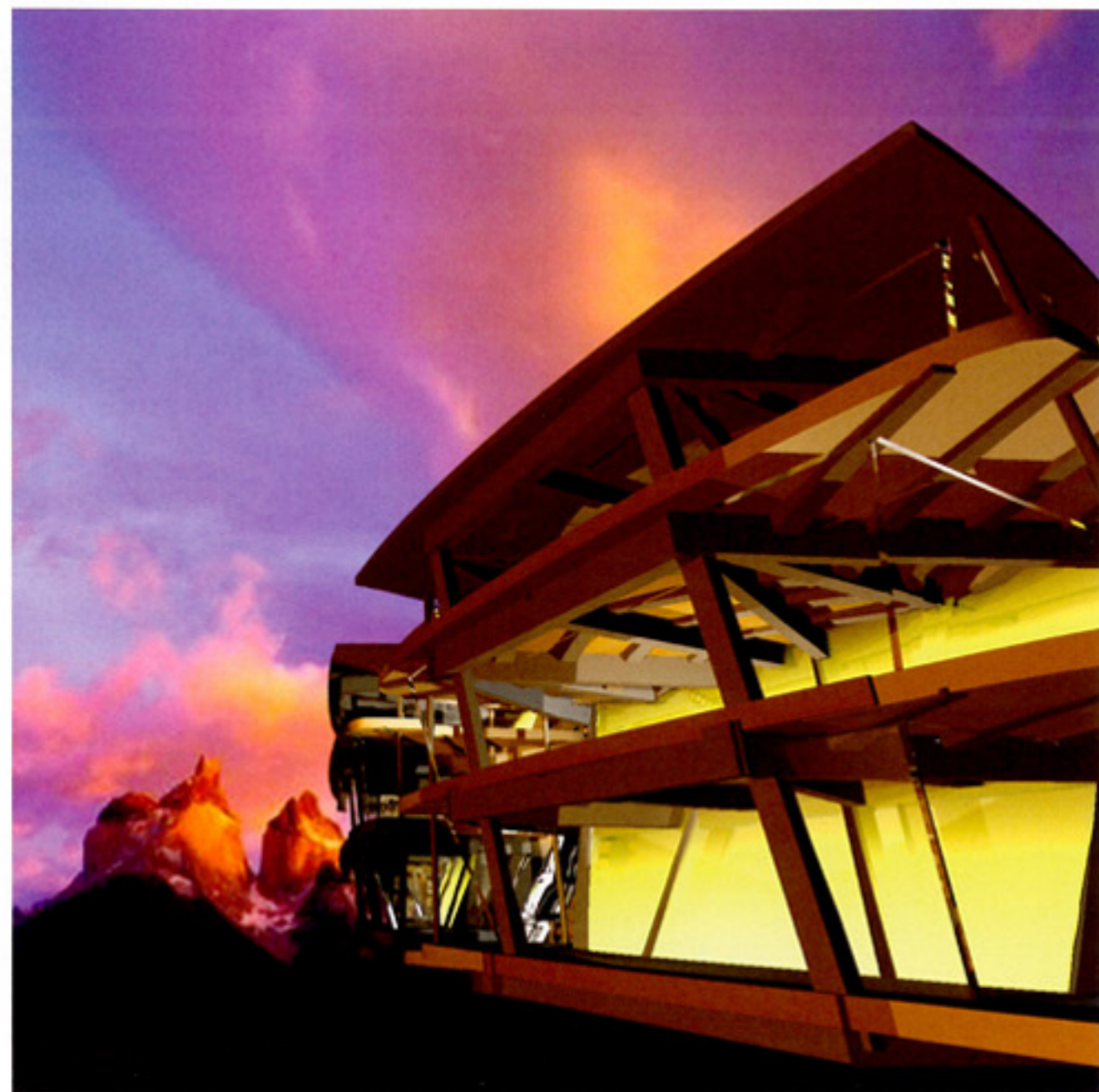
TEXT: PEARL LEE PHOTOGRAPHY: COURTESY OF ASIACITY

The good news is, the world is finally taking the environment seriously. In developed nations, at least, major new buildings and developments boasting a complement of 'green' features are now relatively common. On the whole, the infrastructure of living is becoming less wasteful as architects and planners strive toward the goal of halting — and perhaps reversing — the progress of global warming.

The bad news is that our nascent efforts have come at least 20 years too late. The world's climate has already taken its turn to the extreme, and warm winters and unbearable summers are just the start. Over the next few decades melting icecaps, rising sea-levels and increasingly

destructive weather phenomena will almost inevitably become a fact of life.

With this in mind, the architects of Hong Kong-based firm Asiacity realised that 'sustainable building' is a much bigger issue than simply designing structures that won't destroy the environment: it's also about designing structures and planning communities that won't be destroyed by the environment. 'Living on Edge' is the firm's innovative response to this alarming proposition. Designed as an entry to the RIBA-USA 'Life in the Balance' competition, the concept attempts to present an attractive and practical scheme for a (partly) self-sufficient community located on a Lamma Island hillside.



above The 'Living on Edge' concept showcases architect Alexander Wong's philosophy of "practical sustainability" opposite page Architect Alexander Wong describes the 'Living on Edge' community rise building that's moulded into a hillside



"I call it 'practical sustainability,'" states Asiacity director Alexander Wong, who points out that one of the concept's high-priority goals was to create something that people could not only afford, but unlike many a 'green' project, positively want. "We as architects should avoid inventing dwellings that no-one wants to buy," he says. 'Buildability', therefore, is a prominent feature of the project. Each of the scheme's residential units consists of a prefabricated inverted double tetrahedron structure for quick construction. Simple anchor points ensure excellent stability without any need for major site excavation. High stability is of course needed when one builds high up a hillside, immune from sea-level rises of up to six metres.

Rather than adding 'green' features to an otherwise conventional structure, Wong and his team have made efficiency integral to their concept. Climate control, for example, is achieved by a simple two-sided louvre system that forms the outer skin of the building. When rotated so that their timber sides face outward, the louvres are moistened with an in-built sprinkler system, the resulting evaporation having the effect of cooling the building naturally. When rotated to expose their aluminium sides, the louvres absorb and conduct the sun's heat into the home, or simply protect it from rain showers. For especially cold weather, quilt-like drapes can be hung over the interior walls as additional insulation.

Should the worse come to pass — such as the aforementioned six-metre rise of sea level — the 'Living on Edge' community will be perfectly able to sustain itself independently long enough for its residents to decide on what to do next. On-site windmills will generate electricity, while the homes' double-layered glazed roofs will be switched to 'desalination mode' to produce fresh water. If evacuation is necessary, the development's elevated carpark will double as an emergency pier. "This is one stage in the step-by-step evolution of a totally self-sufficient community," Wong remarks.

Will some of us be living in a community like 'Living on Edge' in five or 10 years' time? The technology necessary for the scheme to come to fruition is anything but exotic or costly, and as Asiacity intended, the homes should be super-efficient as well as attractive. All that's necessary is the leap of faith necessary to bring the plan — or something like it — to reality. In not too many years, we may well be wishing we had.

right from top The homes' inverted double tetrahedron structure is easy to prefabricate, and is exceptionally strong • Each of the louvres forming the outer skin of the homes has an aluminium side that absorbs daytime heat or protects the building when it rains • In-built sprinklers wet the timber side of the louvres, creating an evaporative effect that naturally cools the building **opposite page** The 'Living on Edge' homes are based upon a modular prefabricated structure that reduces the cost and duration of construction • Each building's prominent louvre system serves as a sunshade, reducing energy expended on air-conditioning





above 'Living on Edge's hillside location should immunise the community from rises in sea level

長存社會

澤勝的Living on Edge概念，預見了可持續社區在全球暖化下的生存之道

撰文：PEARL LEE 攝影：由澤勝有限公司提供

好消息是，世界終於認真地處理環境問題。在已發展的國家，以綠色元素掛帥的新建築物及發展項目，相對上已屬普遍。整體而言，建築師及規劃師努力地停止或扭轉全球暖化，減低日常生活所產生的浪費。

壞消息是，這股萌芽的力量，原來已遲了至少20年。全球氣候已步向極端，和暖的冬天、熱得難受的夏天，都只是一個起始。在往後數十年，溶化的冰山、上升的水位，及日益加劇的非常天氣現象，將是不可避免的事實。

在此背景下，澤勝的建築師認為，與其設計不破壞環境的結構，倒不如建構「可持續的建築物」。這間香港公司進一步提出，不論結構設計抑或社區規劃，必須能抵受來自環境的破壞。面對此警號，該公司提出富創意的Living on Edge構思。此具吸引力及實用性的項目，是該公司參加「英國皇家建築師協會美國分會」(RIBA-USA)的「Life in the Balance」的比賽作品。計劃以南丫島為選址，展示一個建於山坡上自給自足(局部)的社區。

「我稱此為『實用可持續性』。」澤勝董事王士維說。他指出，此概念以用家的經濟能力和購買意欲為前提，實有別於眾多「綠色」項目。「建築師不應設計沒有人想買的寓所。」他說。因此，「可建造性」是項目最突出的特色。計劃中的屋子皆採納倒雙四面體的組裝結構，以提升建築效率。房屋以簡單的固定點，

牢固於斜坡上，確保高度的穩定性之餘，更免卻工地挖掘。山坡的位置，使房屋免受因海水水位上漲至六米的威脅。

他們並非把綠色元素加於傳統的結構上，而是將能源效益的概念融入計劃中。例如建築物外層的雙面百葉窗，就用以調節溫度。只要把木面轉向外，內置的灑水器會把表面弄濕，產生蒸發作用，自然地冷卻建築物。當鋁面面向外時，百葉窗不但能吸收及引導太陽熱力至屋子內，更可阻擋雨水。若在特別寒冷的日子，可把棉被質地的布簾掛於室內的牆壁上，以提供額外的保溫層。

當最壞的情況發生，如前述的水位上升至6米，Living on Edge社區能夠維持暫時性的自給自足，讓住客有充足的時間決定下一步行動。社區設有風車以生產電力；而屋子的雙層鍍鋅天台，則能轉換至「海水化淡模式」來製造食水。如需緊急疏散，多層停車場更可變作臨時碼頭。「建構完全自給自足社區，是循序漸進的，而上述的屬進化中的一個階段。」他道。

究竟在5或10年內，我們會否居於像Living on Edge一樣的社區？讓計劃實現，需要特異或昂貴的科技。加上澤勝認為住所須擁有超卓的效益及吸引力，所以要實現此計劃或類似項目，憑藉的是堅定的信念。若能如此，那麼，在不久的將來，我們或許能夢想成真。E