

STEEL STORIES

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STEEL STORIES Feature

AS HEARD ON BFM 89.9

GOING GREEN WITH STEEL

AN INTERVIEW WITH AR. DR. TAN LOKE MUN

Green and sustainability awareness has made its way to the mainstream for good reasons. Recently on BFM 89.9's Property Show, Ar. Dr. Tan Loke Mun – Principal of Dr. Tan LM Architect; also Director of ArchiCentre Sdn. Bhd.; Founder and Director of DTLM Design Group and Director of Kuala Lumpur Architecture Festival (KLAFF) 2019 – talked about the role of steel plays in making buildings more 'green'. He also shares the common misconception people have towards the cost of building sustainable homes, and how steel can be the game-changing green solution.

Here's the interview, as heard on BFM 89.9.



On Air: Ar. Dr. Tan Loke Mun (right) on BFM 89.9

BFM: What makes a home green and sustainable when it comes to design? What are some of the characteristics?

Ar. Dr. Tan: Being in a tropical country, energy efficiency and a cooler home come to mind. Other than that, better indoor qualities and lastly having access to facilities like public transport and other amenities.

BFM: What are some of the features to identify with the naked eye when trying to search for an eco-friendly home?

Ar. Dr. Tan: Look for insulation as most heat gain in tropical countries come from the roof. There is 60% - 70% of heat gain for landed properties such as bungalows or semi-ds, and 80% for terrace houses as the neighbours have already insulated the sides. The greatest energy use in homes today is from air conditioning. So the main focus is to keep the heat out of the house, which can be done by insulating it with having large roofs – oriented in the right direction, preferably north or south. Having fewer windows on the east and west sides also help to reduce energy and cooling costs tremendously.

BFM: How about condominiums?

Ar. Dr. Tan: If you choose it facing west or east, you will face high electric bills. People try to find apartments, predominantly living areas that face north and south. Now, heat can also come through the walls, depending on the glaze units that the building uses. The higher the glaze unit is, the better. There are double and triple glaze units, but those are rare in Malaysia. You can also check the type of glass, as there are glasses that allow daylight to enter, but reduce some of the heat gain.

BFM: For yourself, you are particular with your choice of steel. How is steel important component in an eco-friendly home?

Ar. Dr. Tan: In the steel industry, more than 90% come from recycled content. Throw steel out, and it will be collected almost immediately. The demand for steel is great as it has high recyclable content and an extremely high lifespan, and can be re-used after.

I started using steel because I needed a material to cover a huge house roof which is a GBI (Green Building Index) platinum-rated house – known in the industry as S11 house. I used a metal deck to cover it and put in a lot of insulation. I looked at steel a lot more when I started doing the Green Building Index for Malaysia.

BFM: What about the misconception of steel as a good conductor?

Ar. Dr. Tan: The misconception is that steel is a good conductor; therefore it does not help to insulate the roof. Heat comes in three ways: 1) Transfer from conductivity, 2) Convection, and 3) Reflectivity. Steel comes in many different colours. That is why for roofing, we prefer to use light colours as they reflect heat. Insulation with steel of light colour will prevent the home from being too heated.

BFM: Another misconception – is the cost of steel high?

Ar. Dr. Tan: When it comes to cost comparison, we must have something to compare it against. But, in a perspective, steel is more of a base material used for structures, cladding, finishes and multiple areas. Steel has interesting characteristics which are strong, tensile and not compressive. Steel is a tensile material and its strength should be exploited. For example, we can use steel to develop suspending stairs instead of using heavy concrete. Steel also has huge amount of recyclable content, and high uses and functions. Once a house is demolished in 50 or 100 years, steel can still be used.

BFM: A lot of decision making comes down to cost – is this perception true?

Ar. Dr. Tan: Just last month, we celebrated Green Building Index Malaysia (GBI)'s 10th anniversary. After 10 years, we discovered that the cost of going green is actually a myth. We have certified close to 230 million sq ft, or 500 buildings after 10 years and the additional costs of going green is only 1–5%. Besides that, if we choose the platinum-rated option which is super energy-efficient and cools houses, the average is only 1% to 3%. It can be said that the greener you want the house to be, the higher the price will be – but still, not more than 5%.

**BFM: Is it the same case for residential or landed homes? Do you have to pay premium to own an eco-friendly house?**

Ar. Dr. Tan: All of our statistics show that if you plan from day one during the construction to make it green or an environmentally-friendly building; have the right orientation, the right glass, materials and good insulation in the roof – it won't cost much of a difference. However, if you do it midway or later after the house is already built, it will cost a lot more to replace and re-do the construction.

BFM: Based on today's trend and the property market today, would you say that a lot have adopted the eco-friendly design?

Ar. Dr. Tan: We recently celebrated KLAFF 2019 with the publication of a book on the best work done by architects over the last 10 years. Interestingly, in the chapter about recent Malaysian Architecture, we found new trends and an enormous number of green building projects. It shows a new trend that is skewed towards green buildings. This is definitely due to the green awareness. Green is not a style, not a trend to follow, but it is the right thing to do.

BFM: As an architect, are there restrictions to home designs? For example, Disney's castle – can it be sustainable?

Ar. Dr. Tan: Irrespective of the design, if you intend to build the home as a green home from its foundation, then it can be constructed as a green building.

BFM: We talked about the benefits of an eco-friendly lifestyle, and home purchase. What are the challenges homeowners face?

Ar. Dr. Tan: If it is a new house, the myth is that it is expensive. If it is an old house, the people are not informed that it is a green home. The Real Estate industry needs to start informing home buyers how green a home is. In the UK and Australia, ready-made houses do state the rating of energy efficiency level. Malaysia needs to start implementing green or eco house rating systems as it will help and show homebuyers the best options.

BFM: Will having a rating for existing homes help?

Ar. Dr. Tan: It will help a lot, and it will give home owners all the information they needed. It is similar to buying a second hand car – where you will want all the information possible before purchasing.



Listen to the full podcast here:

<https://www.bfm.my/podcast/morning-run/the-property-show/tps-it-is-steel-worth-building-an-eco-friendly-home>

IN A NUTSHELL:

BUILDING SUSTAINABLE HOMES WITH STEEL



Busting the High-Cost Myth of Going Green

Contrary to popular belief, the cost of building green buildings is only:

1% - 5% higher than average building cost

IN MOST CASES, IT IS NO MORE THAN **5%**

Green Building Index (GBI) Malaysia's statistics have shown

Green Concept incorporated in PLANNING STAGE

LOWER OVERALL COST

VS

Green Concept incorporated MIDWAY

HIGHER OVERALL COST

Why Choose S(teel) for Sustainability:

- High Recyclable Content
- Extremely High Lifespan
- High Tensile Strength

- High Reflectivity*, lighter colours reflect heat & cool a home
- Flexible, for any green design
- Suitable for Malaysian climate

- Efficient Material, with many uses & functions
- 100% Recyclable
- Cost-Effective

Excerpted from Ar. Dr. Tan Loke Mun's interview on BFM 89.9

*depending on the level of insulation, colour, building shape & function

Beauties with Purpose: Green Buildings in Malaysia

Environmental awareness continues to make waves in our everyday lives, and it does not just stop at human consumption and waste. Architects and builders around the world are beginning to reflect environmental considerations in their architectural concepts with eco-friendly designs that minimise overall environmental impact.

Here, we take a look at GBI (Green Building Index) certified buildings in Malaysia, and how their architectural designs are making positive impacts to its surrounding environments. In addition, these buildings are built with Colorbond® steel, so you know that their eco-friendliness is optimised with heat repellent properties.



SETIA CITY MALL, SHAH ALAM, SELANGOR

Malaysia's First Green Mall

Besides the sprawling green field that hints of its status as a green mall, Setia City Mall checks off the GBI rating requirements by being a Sustainable Site with high level rating in Energy and Water Efficiency. A fun fact – besides being built with Colorbond® steel, one third of Setia City Mall's roof also acts as a water catchment plane which drains rainwater into a collection tank. Built according to Kuala Lumpur's rainfall data, the collection tank is sizeable enough to collect rainwater for the mall's irrigation system – totally eliminating the need for potable water!

IRINGAN BAYU SALES GALLERY, SEREMBAN

Inspired by A Closeness to Nature and Human Connection

Iringan Bayu Sales Gallery is truly one of the most unique and exotic commercial buildings in Malaysia. Besides its pristine, tree-lined pathway, the gallery is also built to celebrate the forgotten tranquility of nature. In addition to its obvious tribute to nature in its architectural concept, Iringan Bayu Sales Gallery is a green building and a strategically-located Sustainable Site. The sales gallery also possesses high Energy Efficiency rating – evident by its spacious design which allows natural light and ventilation into the building.

