

# Key Focus Areas in Greening A Residential Property



# Malaysian Commitment to Paris Accord

## Prime Minister: 40 per cent cut in carbon emission

Malaysia's land mass is forested at 56.4 per cent while its green cover stands at 74 per cent, a strong signal to the world that it walks the talk in reducing carbon emission.

Prime Minister Datuk Seri Najib Razak said Malaysia was committed to a 40 per cent reduction in carbon emission per unit of gross domestic product by 2020, using the 2005 level as a baseline.

This, however, is subject to technology transfer and new additional funding from developed nations.

Najib, who is also the finance minister, added that the new economic model introduced in 2010 outlined the country's commitment to sustainability, not only in activities but the impact of development on environment and natural resources.

## SUSTAINABLE DEVELOPMENT GOALS



**40% GHG emissions intensity reduction by 2020 and 45% by 2030 from 2005 levels.**

**Built environment contributes 30%-40% of total GHG emissions in Malaysia through the design, construction, cooling and illumination of buildings.  
(Approx 8-10% embodied and 20-30% operational)**

# NAPIC Data



**Total building stock is 1.3b sqm  
and only 8m sqm is green certified.**



## Environmental Benefits



Green Buildings are inherently designed to make the best use of natural resources. A Green Building is much more friendly to the environment than a normal building.

## Economic Benefits



The overall cost of a Green Building is less as compared to a normal building because it uses less resources like energy & water. It also increases the value of the property.

## Social Benefits



Green Buildings are very good for the health of entire eco-system that occupies it. They also decrease the load on local infrastructure.

# Who Are We?



## GreenRE Sdn Bhd

- Green Building Standards Development (GreenRE)
- Green Building Certification
- Training:
  - GreenRE Managers Course (GREM)
  - GreenRE Refresher Course
  - Technical Seminars
  - Short Courses

## Established Based On International Green Standards

Based on Singapore BCA's prestigious **GreenMark tool** which is recognised internationally.

GreenRE has been modified for Malaysian standards.

GreenRE has a portfolio of over 200 projects in Malaysia.

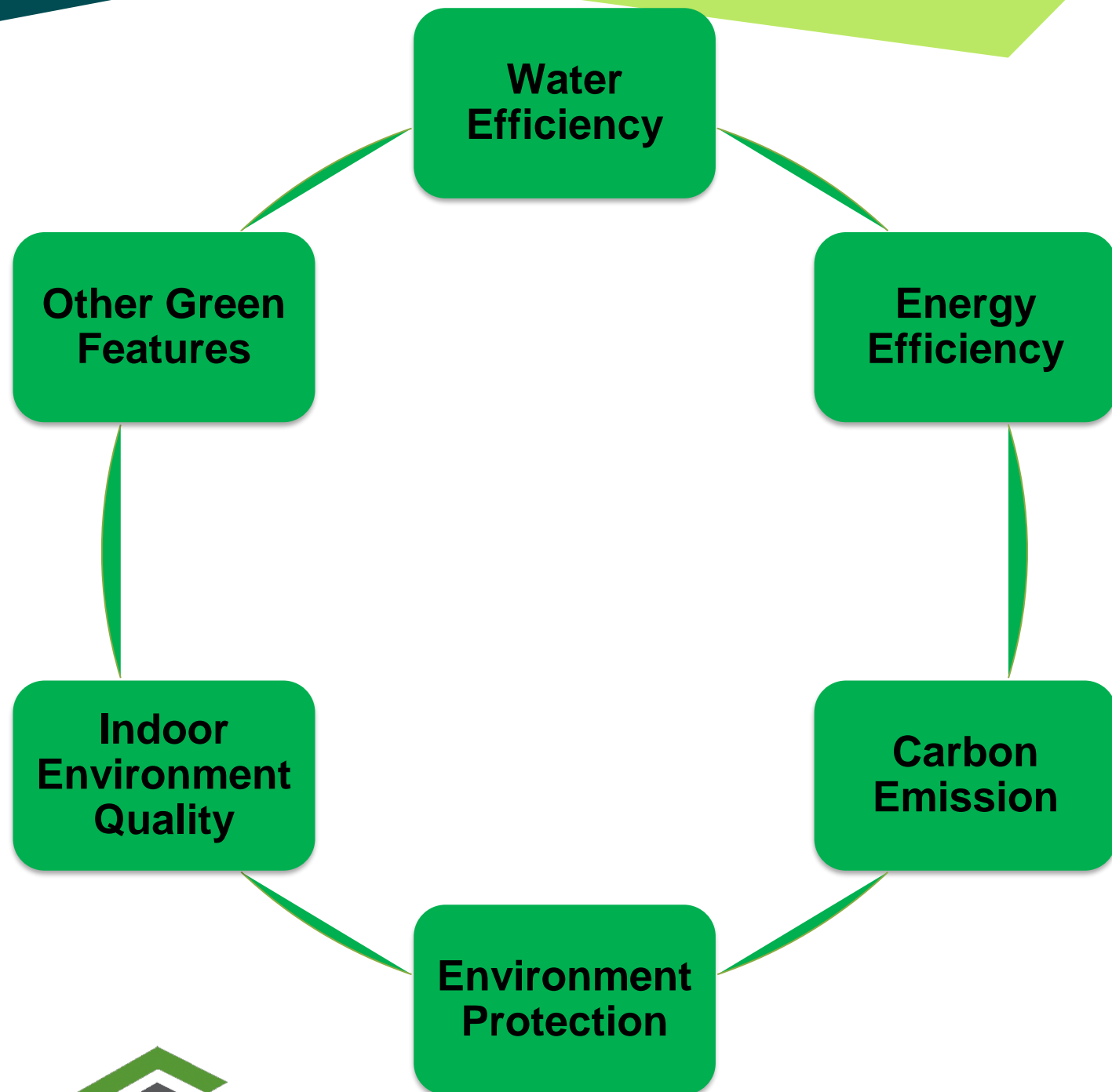
## Endorsed by the Federal Government

**MGTC and MIDA**, approves GreenRE as a green building certification body under their MyHijau Mark Programme. All GreenRE certified buildings qualify for income tax allowances from MIDA & LHDN.

Recognized by **authorities** such as DBKL, MPSA and MBPJ in planning approvals.

**IRDA** recognizes GreenRE as a locally developed certification tool that is eligible for tax exemption incentives for the Iskandar Region.

# Green Residential Building



Energy Related Requirements  
Minimum 30 credits

Elective Requirement for Energy Improvement  
(Combination of the following items to meet 30 credits)

## Part 1 – Energy Efficiency

RES 1-1 Thermal Performance of Building Envelope -RETV  
RES 1-2 Naturally Ventilated Design and Air-Conditioning System  
RES 1-3 Daylighting  
RES 1-4 Artificial Lighting  
RES 1-5 Ventilation in Carparks  
RES 1-6 Lifts  
RES 1-7 Energy Efficient Features  
RES 1-8 Renewable Energy

Other Green Requirements  
Minimum 20 credits

Elective Requirement for Other Areas  
(Combination of the following items to meet 20 credits)

## Part 2 - Water Efficiency

RES 2-1 Water Efficient Fittings  
RES 2-2 Water Usage Monitoring  
RES 2-3 Irrigation System and Landscaping

## Part 3 – Environmental Protection

RES 3-1 Sustainable Construction  
RES 3-2 Sustainable Products  
RES 3-3 Greenery Provision  
RES 3-4 Environmental Management Practice  
RES 3-5 Green Transport  
RES 3-6 Stormwater Management  
RES 3-7 Community Connectivity

## Part 4 - Indoor Environmental Quality

RES 4-1 Noise Level  
RES 4-2 Indoor Air Pollutants  
RES 4-3 Waste Disposal  
RES 4-4 Indoor Air Quality in Wet Areas

## Part 5 – Other Green Features

RES 5-1 Green Features & Innovations

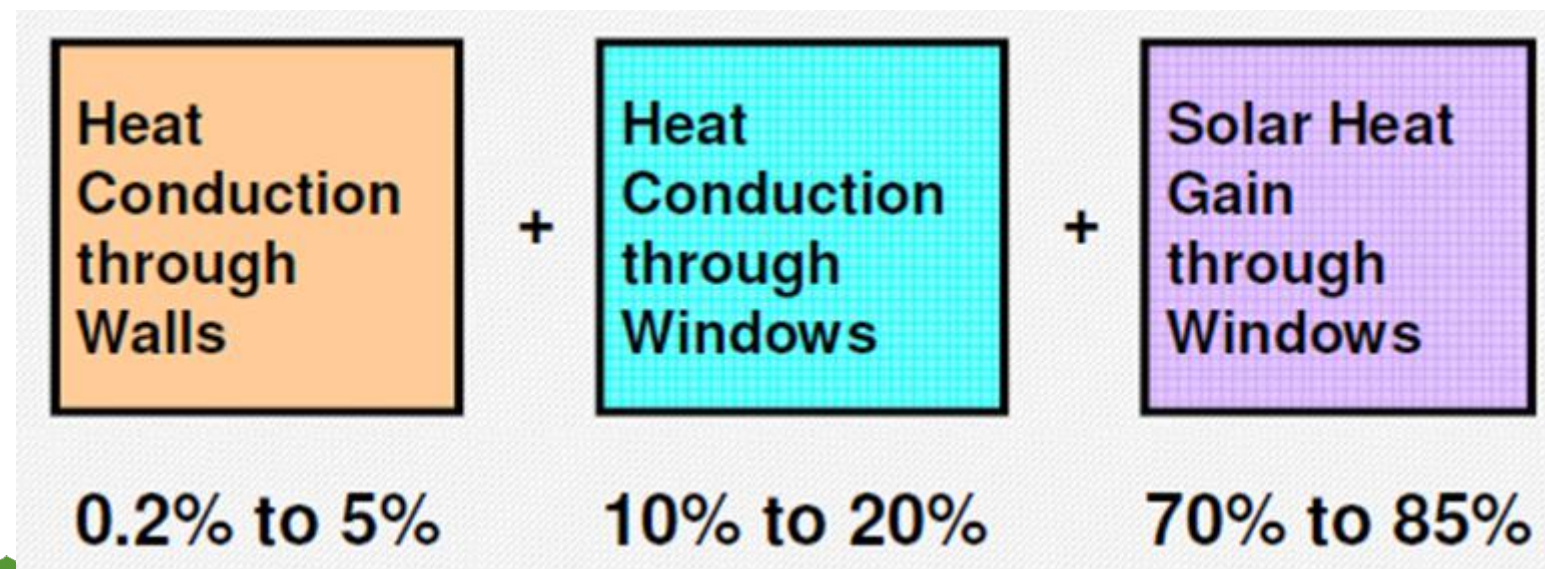
## Part 6 – Carbon Emission of Development

RES 6-1 Carbon Emission of Development

# Key Requirements

## Residential buildings (RES) :

Parameters	Requirements
RETV	Max 25 W/m <sup>2</sup>
Roof U-Value	Light : Max 0.4 W/m <sup>2</sup> K
	Heavy : Max 0.6 W/m <sup>2</sup> K



**Residential Envelope Transfer Value (RETV) is a measure of the average heat gain into a residential building through the building envelope. The factors differ from OTTV due to unique demands of residential buildings.**

# Water Efficiency

**Average Malaysian uses 220 to 240 litres of water per day. 32% more than UN recommended guidelines of 150 litres of water per day.**

**New law being drafted to make Water Efficient Product Labelling Scheme (WEPLS) mandatory for all water fittings.**

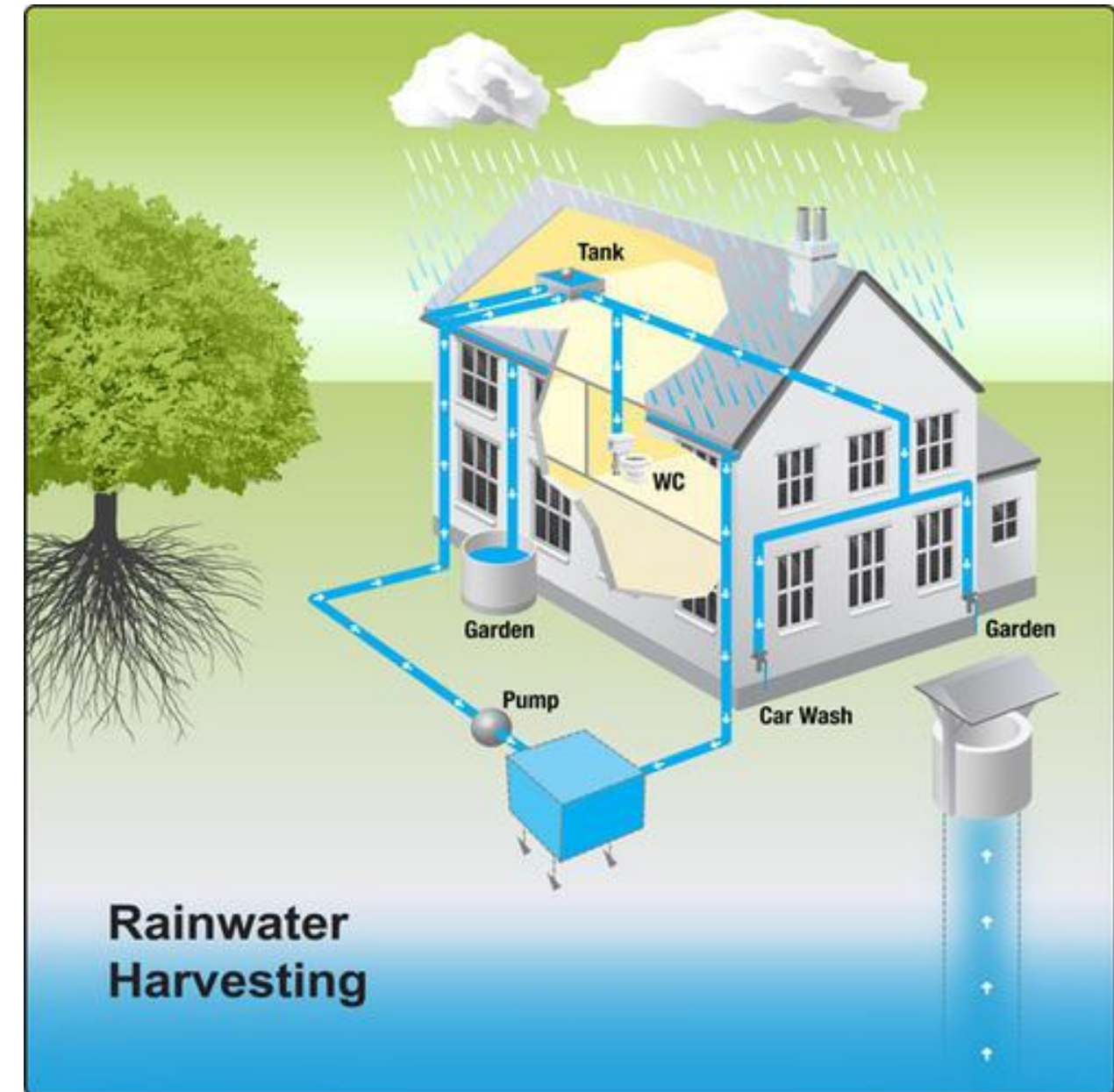
**Products covered under WEPLS include basin tap, sink tap, shower tap and ablution tap, water closet, urinal equipment, shower heads and clothes washing machine.**



# Rainwater Harvesting

**Guidelines for rainwater harvesting and utilization system (SPAHS) have been gazzeted by six (6) states namely Perak, Selangor, Malacca, Johor, Kelantan and Perlis as part of amendments to the UBBL.**

**All high rise buildings (including residential) and bungalows / semi detached houses with roof area exceeding 100sqm.**

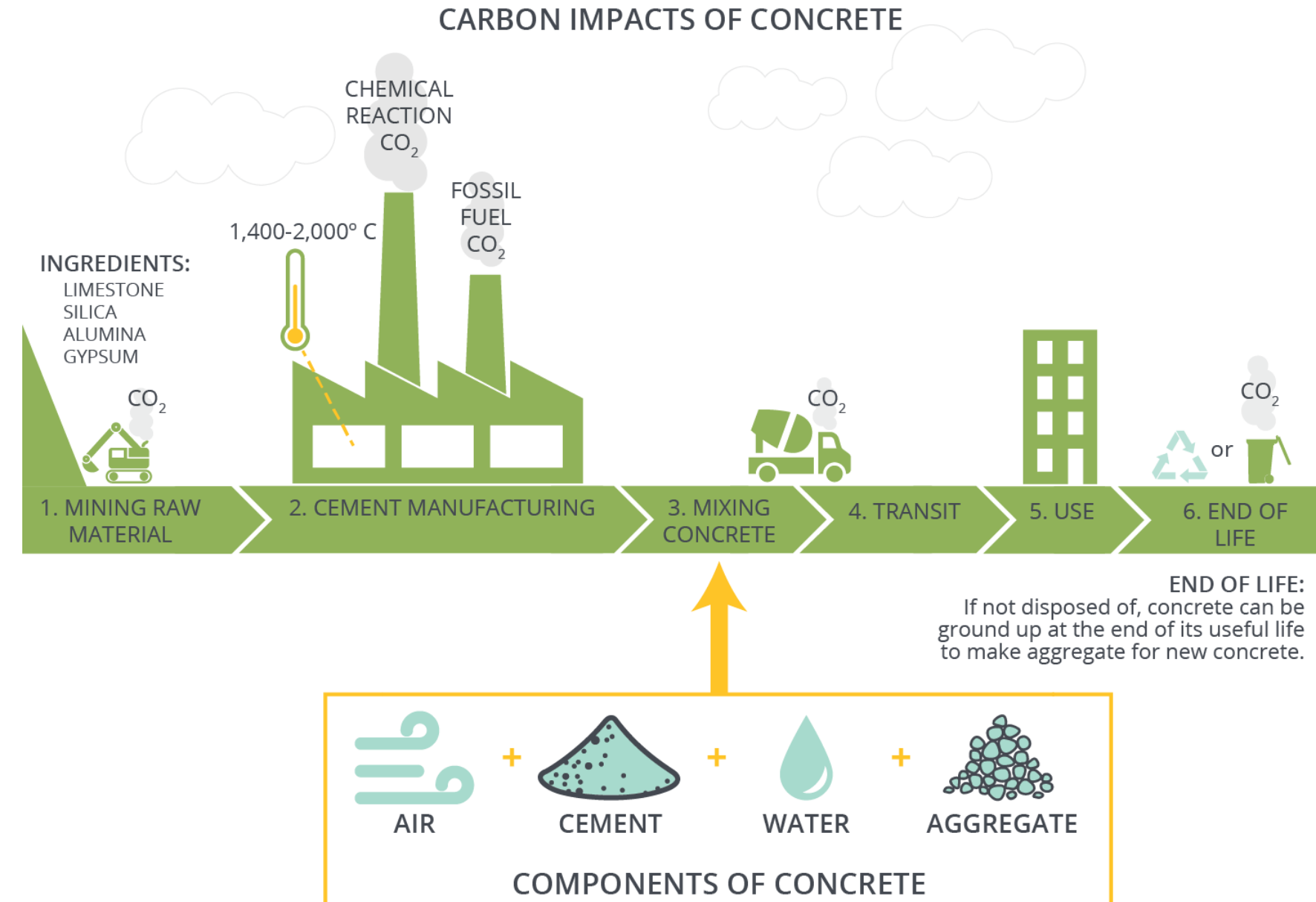


# Environmental Protection

**Around 4 billions tonnes of cement is produced globally on an annual basis. Cement production is responsible for 5% of global human produced CO2 emisisions.**

**Green concrete reduce ordinary Portland cement (OPC) with industrial by-products such as GGBS, silica fume and fly ash. This dramatically reduces the embodied carbon in concrete.**

**Recycled concrete aggregates.**



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# Indoor Environment Quality



**Improved indoor environment improves occupant wellbeing and productivity**

# GREENRE GOLD TROPICANA AVENUE



SCORE :89.26

Efficient Air Conditioning system  
Provision of 5-star rated air conditioning in each unit

Reduce heat gain through the buildings  
RET<sub>V</sub> = 15.6 W/m<sup>2</sup>  
Design with the low WWR

Good Ventilation  
100% of units having north and south openings

High Efficient Lighting  
50% Saving of lighting power compared to baseline  
Provision of T5 lighting in the common area

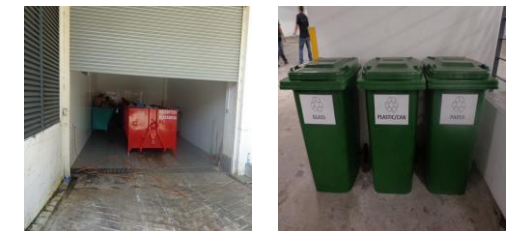
Use of rainwater harvested  
Rainwater harvesting system designed to meet 100% of irrigation demand.

Use of water efficient fittings

100% of the fittings is rated with the water efficient fittings scheme



Waste Recycling  
Practicing waste separation and recycling.



Extensive Greenery

Located at the facilities floor and roof Garden  
Green Plot Ratio = 5.00  
Edible Garden planted with the fruits & Herbs



# GreenRE Homeowners Guide

## ENERGY SAVINGS



FACT: Highest usage of energy in households: Cooling (Air conditioning), Heating, Lighting, Refrigerators, Washing Machine, Cooking, etc.

No	Tip	Total Points	Your Score
GREEN FEATURES			
1.	Use Suruhanjaya Tenaga 5 star rated electrical appliances -AC (2pt), Ceiling Fans (2pt) Refrigerators (1pt) and TV (1pt)	6	
2.	Use at least 80% LED or energy efficient lighting	3	
3.	Use perimeter lighting with motion sensors	2	
4.	Use timers for indoor and outdoor lighting when away	2	
5.	Solar thermal water heater application	6	
6.	Renewable energy (e.g. solar panels) for electricity generation	6	
7.	Use of roof insulation (e.g. rockwool, aluminum foil etc.)	3	
8.	Trees outside your home can offer natural shading to keep your home cool	2	
9.	Use light coloured walls and roofing to reflect heat	2	
BEST PRACTICES			
10.	Average electricity usage for every individual is less than 112kW/h per month	2	
11.	Washing machines consume a lot of energy-Do full loads of laundry to reduce the amount of times you use a cycle	1	
12.	Use the cold water cycle in your washing machine	1	
13.	Set your air-con temperature between 23°C-25°C for optimum cooling	1	
14.	Iron bigger loads of clothes to reduce the number of times you turn on the iron	1	
15.	An organised fridge allows cool air to circulate more efficiently	1	
16.	Appliances on stand-by mode consume energy-Completely switch off computers & laptops when not in use	1	
Sum of Points		40	

# GreenRE Homeowners Guide

## WATER & LANDSCAPING

FACT: On average, Malaysians consume 210 litres per capita/day, higher than the 165 litres/capita/day recommended by the World Health Organisation (WHO)



No	Tip	Total Points	Your Score
<b>GREEN FEATURES</b>			
1.	Use WEPLS appliances. WEPLS is a voluntary Water Efficient Product Labelling Scheme-A 3 Star Rating System	2	
2.	Use of water efficient irrigation system (e.g. drip feed)	2	
3.	Replace older toilets with toilets that use 6 litres/flush or less (e.g. Dual Flush system)	2	
4.	Use front load washing machine	2	
5.	Rainwater harvesting system installation	4	
<b>BEST PRACTICES</b>			
6.	Average water usage for each individual is below 180 litres/day	2	
7.	Inspect all piping, toilets and faucets for leaks	1	
8.	Turn off the water while you are applying soap and when you brush your teeth or shaving	1	
9.	Take shorter showers (less than 5 minutes)	1	
10.	Wash clothes with full load in your washing machine	1	
11.	Use a bowl of water to peel and clean vegetables and fruits instead of running water	1	
12.	Collect rainwater for non-potable uses (e.g. washing car, watering plants, washing outdoor area etc.)	1	
13.	Check your bills and monitor your usage	1	
Sum of Points		20	

# GreenRE Homeowners Guide

## WASTE MANAGEMENT- REDUCE, REUSE, RECYCLE



PETE

Soft drink  
bottles, mineral  
water, cooking  
oil container



HDPE

Laundry &  
cleaning  
containers,  
shampoo and  
soap bottles



PVC

Bubble wrap,  
trays for sweets,  
food wrappers



LDPE

Shopping bags,  
crushed bottles  
& wrappings



PP

Furniture,  
luggage, toys,  
bumpers and  
external lining  
of cars



PS

Refrigerator  
trays, costume  
jewellery, CD  
Cases, vending  
cups



OTHER

Other  
plastics, e.g.  
acrylic, nylon,  
fiberglass etc.

No	Tip	Total Points	Your Score
GREEN FEATURES			
1.	Bins for waste separation	2	
2.	Composting bins	2	
BEST PRACTICES			
3.	Buy reusable not disposable	1	
4.	Buy products with less packaging (multipacks vs single)	1	
5.	Bring your own take-away containers (food & drinks)	1	
6.	Say no to bottled water-bring your own reusable tumblers	1	
7.	Repurpose-old clothes to rags, old containers to storage jars	1	
8.	Use reusable shopping bags	1	
9.	Take stock of your grocery items to avoid waste of expired products	1	
10.	Shop at BYO home cleaning products stores- bring your own containers	1	
11.	Use eco-friendly paper/ washable plastic cups & plates for parties	1	
12.	Take note of non-recyclable items & reduce the usage of these items	1	
Sum of Points		15	

**Non-Recyclable Items:** Shredded Paper • Brightly Coloured Paper • Soiled/ Greasy paper (e.g pizza boxes) • Wax paper • Bottle Caps • Used baby diapers • Styrofoam • Organic Waste • Ceramic

FACT: Only 3 types of  
plastics are recyclable in  
Malaysia-Plastics under the  
categories of 1, 2 & 5 are  
99% recyclable in Malaysia

# GreenRE Homeowners Guide

## TRANSPORTATION

No	Tip	Total Points	Your Score
<b>GREEN FEATURES</b>			
1.	Switch to hybrid/electrical cars	4	
<b>BEST PRACTICES</b>			
2.	Use public transport/walk/cycle/ carpool for work or leisure	1	
3.	Carpool when possible	1	
4.	Regularly service your vehicles to ensure it is running in optimum condition to reduce harmful emissions	1	
Sum of Points		7	

## INDOOR AIR QUALITY AND SUSTAINABLE MATERIAL

No	Tip	Total Points	Your Score
<b>GREEN FEATURES</b>			
1.	Use low VOC paints throughout household	2	
2.	Use low toxic cleaning and adhesive products	2	
3.	Use eco-labelled building material (i.e walls, flooring, ceiling)	2	
4.	Use sustainably sourced timber for woodwork	2	
<b>BEST PRACTICES</b>			
5.	Frequently open windows to encourage natural ventilation	1	
6.	Clean air-cond filters regularly (once a month)	1	
Sum of Points		10	

# GreenRE Homeowners Guide

## GREENERY PROVISION

No	Tip	Total Points	Your Score
1.	For landed homes, ensure outdoor area has grass area/ greenery (at least 50% of non-built up area)	2	
2.	Use potted plants for multistoried complexes or covered outdoor areas (at least 50% of built up area)	2	
3.	Use drought resistant plants to reduce water requirements (refer to <a href="https://florafaunaweb.nparks.gov.sg/">https://florafaunaweb.nparks.gov.sg/</a> )	2	
4.	Have your own herb & vegetable garden	2	
Sum of Points		8	

## BENEFITS OF A GREEN HOME

### ENVIRONMENT

Green homes are up to 40% more energy efficient than conventional homes. As electricity in Malaysia is primarily produced by fossil fuels such as coal and gas, improving energy efficiency has the benefit of reducing environmental pollution. Green homes also have higher water usage efficiency and use environmentally friendly home products and building material. All these contributes to lowering your carbon footprint.

### HEALTH BENEFITS

With more sustainable home products , increased natural ventilation and greenery, green homes can have a positive impact on your overall health. Green homes can reduce symptoms of respiratory disease, alleviate depression, stress & infectious diseases etc.

### COST SAVINGS

Smart usage of electricity & water in your home leads to reduced monthly bills! Green homes use higher quality and standards for construction and building materials- hence, a longer product life span.

WE STAND FOR  
**CLEANER**  
**GREENER**  
& **SAFER**

**tomorrow**

For everything there is a reason.  
the old things have passed away,  
behold, new things have come....



# Thank You

