

PROSPERITY

PLANET

PEOPLE AND PARTNERSHIP

PEACE

PLANET

PROTECTING OUR ENVIRONMENT

With greater awareness on the adverse impact of Climate Change on our environment, the Government's initiatives towards achieving a low carbon economy status by 2050 and with PETRONAS' aspiration to achieve net zero carbon by 2050, we further heightened our commitment to reduce our GHG emission in support of this commitment.



Photo courtesy of Oscar Iqnetik; TRACC Borneo

**SUPPORTING THE UNSDGs**

3 GOOD HEALTH AND WELL-BEING, 11 SUSTAINABLE CITIES AND COMMUNITIES, 13 CLIMATE ACTION

**MATERIAL MATTERS**

Climate Change  
Environmental Management

**MAPPED TO OUR CAPITALS**

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**RELATED PRINCIPAL RISKS**

Finance  
Asset Management  
Facility Management  
Health, Safety and Environment  
Security

**5-YEAR SUSTAINABILITY ROADMAP (2019-2023)**

Goal 3  
Combating Climate Change and Reducing Environmental Impact

Environmental protection and climate change are among the biggest challenges faced by the world today. The rising concerns on the adverse impact of environmental change and ecosystem impairment on human health due to irresponsible activities is a timely reminder for individuals and corporations to invest in environmentally sustainable and socially responsible practices, like using clean energy and managing natural resources responsibly, to secure a liveable and sustainable future.

With the growing awareness on environmental concerns, KLCCP Stapled Group is focused on efforts to address and mitigate environmental impact and climate change resulting from our business operations and the corresponding risks - improving our environmental practices and operational sustainability by:

- Driving down energy consumption in our operations
- Minimising use of water throughout our assets
- Minimising quantities of waste generated at our assets
- Influencing suppliers/contractors on commitment in conserving the environment
- Promoting a biodiversity ecosystem

OUR APPROACH

At KLCCP Stapled Group, we acknowledge our responsibility and emphasise the needs in raising awareness and understanding of environmental sustainability amongst our business units, stakeholders and the broader community. In line with our Code of Conduct and Business Ethics (CoBE) and as a real estate owner, developer and manager, we aim to minimise disruption to the environment and its adverse impact on the community by reducing the environmental footprint of our buildings and use energy, water and resources more efficiently. We strive to ensure our decisions contribute to improvements in environmental sustainability, working in-tandem with our tenants in green building initiatives, the local authority, Government and other stakeholders in achieving our targets.

**FOCUS FOR THE YEAR**

- Increased elimination of single-use plastics at MOKL Hotel and sourced alternative plastics with lower environmental footprint through Alternative Materials Tool
- Food waste recycling at the food courts and supermarkets in Suria KLCC
- Replacement of LED lights at common areas in offices, retail and car park as scheduled

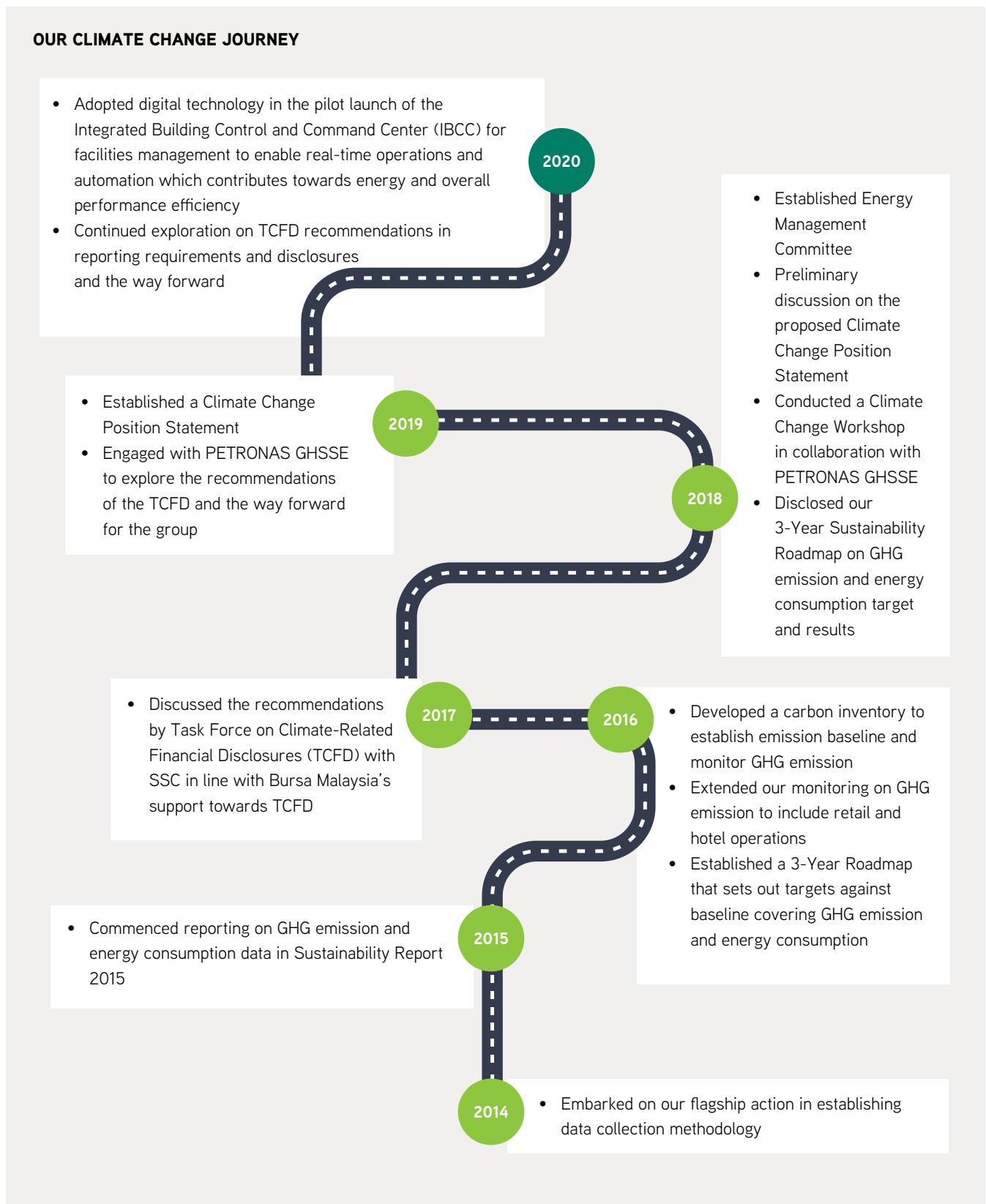
CLIMATE CHANGE

We address climate change risks by reducing our energy consumption and Greenhouse Gas emission throughout our business operations. Despite our emission being small, we are committed to support the global Climate Change agenda and remain conscious of how we operate and align ourselves to best practices.

Our Climate Change Journey

We charted our Climate Change journey in enhancing our existing carbon management practices and affirming our stand towards the Government's commitment in combating global Climate Change and its aspiration towards achieving a neutral carbon economy by 2050 and in support of the 2015 Paris Agreement. We aligned our Climate Change action to the Sustainable Development Goal 13 in taking urgent action to combat Climate Change and its impact.





### Greenhouse Gas Emission

Based on our carbon inventory and emission baseline, we monitor our carbon emission and track our progress on a quarterly basis. We anticipate, mitigate and develop adaptation strategies to face the upcoming carbon risks and opportunities which may affect our tenants, users, guests and community. We monitor our GHG emission based on:

Scope 1 – Direct Combustion (natural gas and diesel consumption)	Scope 2 – Indirect Combustion (electricity and chilled water consumption)
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We achieved a reduction of 4.2% in our GHG emission from 110,469 mtCO<sub>2</sub>e in 2019 to 105,876 mtCO<sub>2</sub>e in 2020 as a result of our continued proactive measures in minimising our carbon footprint coupled with the reduced occupancy and lesser business activity in our retail mall and hotel.

Performance for the Year								
Greenhouse Gas Emission by Segmen(mtCO <sub>2</sub> e )								
	Office and Car Park		Retail		Hotel		Total	
	2020	2019	2020	2019	2020	2019	2020	2019
Scope 1	11.00	4.45	1,512	1,692	1,139	2,142	2,662	3,838
Scope 2	71,015	67,614	24,577	22,931	7,622	16,086	103,214	106,631
Total							105,876	110,469

### Efficient Energy Management

As one of the main sustainability agendas and a pillar to our effort in reducing our carbon footprint, we continue to implement energy efficient initiatives throughout our business operations to optimise energy consumption towards overall reduction.

Through our 5-Year Sustainability Roadmap, we tracked and monitored our energy efficiency and its impacts to our overhead, cost, return of investment and the target reduction of our GHG emission.

### Initiatives for the Year

<b>PETRONAS Twin Towers</b>	<ul style="list-style-type: none"> <li>LED light replacement for Workplace For Tomorrow (WFT) floors and common area. (8,105 units replaced)</li> </ul>
<b>Menara 3 PETRONAS &amp; Menara Dayabumi</b>	<ul style="list-style-type: none"> <li>LED light replacement for office and common area (Menara 3 PETRONAS: 1699 units replaced) (Menara Dayabumi: 8,516 units replaced)</li> <li>LED light replacement from Level 20 – 29 (3,507 units replaced)</li> </ul>
<b>Suria KLCC</b>	<ul style="list-style-type: none"> <li>Modernisation of escalators at Ampang Mall</li> <li>Upgrading of chilled water pumps for Ramlee Mall</li> <li>LED upgrading works at washroom corridors, concourse floor expansion and entrances walkway and Park Mall</li> <li>Replacement of solar inverter (for solar panels at mall's rooftop)</li> </ul>
<b>MOKL Hotel</b>	<ul style="list-style-type: none"> <li>Shutting off individual air-conditioning units in unoccupied areas</li> <li>Shutting off or maintain minimum room temperatures by resetting thermostats</li> <li>Operate boilers and equipment in accordance with actual loads</li> <li>Switching off lights at times when there is low, or no activity including campaign on "switch-off" lights, printers, computers, etc in offices when not in use</li> </ul>
<b>NWD Car Park</b>	<ul style="list-style-type: none"> <li>Replacement of current LED lighting bulb commenced in November 2020 with targeted completion in February 2021. The wattage is reduced from 18W to 9W when light is dimmed to 50%</li> </ul>

### Renewable Energy

The photovoltaic system located at the rooftop of our retail mall, Suria KLCC continues to contribute towards the mall's electricity saving of approximately 16.3 million kWh, equivalent to a total saving of RM1.8 million since 2014. The reduction of GHG emission is approximately 360,000 kg carbon dioxide (CO<sub>2</sub>) per year.

Solar Energy Performance		
	2020	2019
Energy Generated from Solar (kWh)	473,978	511,695
Savings (RM)	220,090	238,000

Performance for the Year							
Energy Consumption by Segments ('000 kWh)							
Office and Car Park		Retail		Hotel		Total	
2020	2019	2020	2019	2020	2019	2020	2019
69,865	74,720	11,153	12,300	7,513	13,280	88,531	100,300

During the year, our overall energy consumption recorded a decrease of 12%, from 100,300kWh in 2019 to 88,531kWh in 2020. This significant drop in consumption was due to the impact from the pandemic where occupancy at our office premises was significantly reduced and retail and hotel were not operating at full capacity throughout the many phases of the movement restrictions imposed by the Government.

**ENVIRONMENTAL MANAGEMENT**

We recognise the importance of environmental management practices as our actions can create both negative and positive impact — by our consumption, organisational activities and investment patterns. To mitigate any possible adverse impact, we continue to track and monitor our environmental performance to enable us to reduce our environmental impact and minimise environmental degradation. The tracking and monitoring also enable us to gauge the efficiency of the resources used and for our operations to achieve cost optimisation whilst contributing to the well-being of our community.

**Water Management**

The growing water scarcity and the frequent and long period of disruption in supply experienced throughout the year call for a more efficient water resources management. One of the main reasons for water supply disruption was plant shutdown due to water pollution. It is increasingly becoming a problem, often leaving millions of households high and dry for several days to even a week and causing inconveniences to businesses and industries reliant on consistent and uninterrupted water supply.

As a real estate owner, developer and manager, we aim to keep our water use to a minimum, reuse water and prevent water pollution to achieve efficient water management. Efficient water management also translates to less energy which reduces carbon footprint and in turn lowers our operational cost.

Water is critical for our operations and despite the huge consumption requirement, we continue to manage our water use throughout our operations by putting in place initiatives to achieve efficient use and to reduce consumption. During the year, we recorded a 20% reduction in our water consumption from 1,184,451m<sup>3</sup> in 2019 to 947,728m<sup>3</sup> mainly due to the reduced activity in our premises resulting from the pandemic.

Performance for the Year							
Water Consumption by Segments (m <sup>3</sup> )							
Office & Car Park		Retail		Hotel		Total	
2020	2019	2020	2019	2020	2019	2020	2019
455,868	624,503	374,311	405,000	117,549	154,948	947,728	1,184,451

**Initiatives for the Year**

- Suria KLCC**
  - Routine maintenance and monitoring for water leakages
- MOKL Hotel**
  - Installation of Basement 4 sand filters after the incoming water to reduce brownish water issues, centralised dishwashing and reduce unnecessary cleaning
- NWD Car Park**
  - Replacement of current LED Lighting Bulb commenced in November 2020 and estimated completion in February 2021. The wattage is reduced from 18W to 9W when light is dimmed to 50%

**Waste Management**

Our waste management covers the disposal of construction waste produced during development and renovation of our buildings, municipal waste produced during operation of our buildings by users and occupants, which includes domestic and hazardous waste. We manage our waste responsibly to reduce the impact and the intensity of harmful greenhouse gases like carbon-dioxide, carbon monoxide, and methane that are often exuded from accumulated wastes in landfills. These wastes are recycled or disposed in a safe, ethical, and responsible manner to help reduce the negative impacts to the environment.

**Initiatives for the Year**

- PETRONAS Twin Towers  
Menara 3 PETRONAS  
Menara ExxonMobil  
Menara Dayabumi**
  - Plastic bottle recycling campaign - called #crushplasticchallenge conducted within KLCCUH's offices at Level P1, PETRONAS Twin Towers
  - Encouraged contractors to participate in recycling program conducted by KLCCUH through engagement and distribution of programme poster
  - Recycling program at the four facilities generated a total of 123.9 metric tonnes of paper and plastic bottles
- Suria KLCC**
  - Conducted food waste program at the food court, supermarkets and restaurants where food wastes are sent to recycling plant for processing into animal feed
  - Certified Professional Scheduled Waste Management Training for Suria KLCC to understand the legal requirements on scheduled waste management and able to identify, classify and categorise type of scheduled wastes
  - Formulate a sound and effective implementation plan for full compliances with the regulatory requirements of the Environmental Quality (Scheduled Wastes) Regulations 2005
- MOKL Hotel**
  - Eliminating use of single-use plastic - currently at 68% elimination of single-use plastic and targeting a 100% elimination by first quarter 2021. Introduced the use of Alternative Materials Tool by World Wide Fund for nature (WWF) to find alternatives e.g. single-use packaging materials with lower environmental footprint, without transferring the environmental cost to another system. Initiatives and best practices were also shared with food suppliers to educate and create awareness on single-use plastic commitment
  - Sourcing for reusable containers to be used in kitchens instead of cling film and vacuum bags
  - Reducing food waste at Muhibbah Café (staff dining) - estimated to reduce 1 kg of food waste per cover/month. As at end of October 2020, waste decreased to approximately 0.3 kg per cover/month. This initiative has now been implemented in Mosaic restaurant kitchen with monthly tracking
  - Ongoing food waste management initiatives with WWF-Malaysia at Mosaic restaurant

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**LIVE GREEN** Caring about the Environment is Beautiful  
Do your best to Recycle!

**PETE**  
Plastic bottles with Code #1 in Plastic Resin Codes are called Polyethylene Terephthalate (PETE)  
Plastic water bottles are designed to be thrown away after Single-use

**REFILLING PLASTIC BOTTLES**  
It could leach chemicals into the water (if heated/scratched)  
Potential bacterial breeding ground

**EFFECTS ON US**  
EUWW! It is safe to use but NOT to reuse  
May cause Cancer & lead to Hormonal issues

**LET'S HYDRATE WITHOUT ANY HARM BY:**  
Replace your plastic water bottle and investing with 100% BPA-free or stainless steel water bottles, today!  
This will help to conserve our Exquisite Mother nature and improve the quality of mankind lives, as well as for our future generation well-being

**ENVIRONMENTAL PROBLEMS**  
Malaysia has been ranked as 8th among the top ten Countries with mismanaged plastic waste in the world  
A study estimated that Malaysia had produce 94% tons of mismanaged plastic wastes in 2010, 37% tons from the total have been washed into the oceans

**IMPORTANT!**  
We may never reach zero in "ZERO WASTE" but that is not a reason to take zero action, so do your part to RECYCLE for a more SUSTAINABLE Future!  
SAVE US!

**NOTES**  
**PRODUCTS MADE FROM RECYCLED PETE**  
Can turned into more PETE products OR  
1 bottle = 2-3 pens  
10 bottles = T-shirt  
63 bottles = Sweater  
16 bottles = Travel bag  
17 bottles = Flats and Other Footwear  
114 bottles = Sleeping bag insulation  
50 2L bottles = Carpet fiber

Overall, non-hazardous waste generated at our premises recorded a significant decrease due to COVID-19 restrictions and lower usage of food and beverage outlets and less banqueting events at MOKL Hotel. This decrease was also due to the various measures put in place which include recycling efforts and the increased awareness among tenants and employees on the importance to reduce, reuse and recycle.

Meanwhile, hazardous waste generated at office and car park saw a significant increase from 3.449 metric tonnes in 2019 to 78.64 metric tonnes in 2020 due to heightened housekeeping activity involving the replacement of LED lights in all office buildings and the NWD car park.

Performance for the Year

Waste Generation and Disposal by Segments

Office and Car Park (metric tonnes)		Retail (metric tonnes)		Hotel (metric tonnes)	
<b>Hazardous Waste Generated</b>		<b>Hazardous Waste Generated</b>		<b>Hazardous Waste Generated</b>	
2020	2019	2020	2019	2020	2019
78.64	3.449	0.26	0.937	0.198	2.220
<b>Hazardous Waste Disposed</b>		<b>Hazardous Waste Disposed</b>		<b>Hazardous Waste Disposed</b>	
2020	2019	2020	2019	2020	2019
2.36	2.860	Nil	0.557	0.198	2.219
<b>Non-Hazardous Waste Generated</b>		<b>Non-Hazardous Waste Generated</b>		<b>Waste Intensity (kg/per room)</b>	
2020	2019	2020	2019	2020	2019
481.73	2,334	2,251.3	4,541	0.81	1.30
<b>Recycled waste</b>		<b>Waste Diversion (%)</b>			
		2020	2019	2020	2019
		1,407.3	4,227	60.66	63.0

CASE HIGHLIGHTS: Food Waste Recycling at Suria KLCC

Suria KLCC commenced its food waste recycling programme in February 2020 with the aim to reduce waste disposal to landfill and minimise the release of harmful greenhouse gases to the environment. Despite the temporary closure of the mall and the staggered resumption of business activity between March to June 2020 due to the COVID-19 Movement Control Order (MCO) enforcement, the recycling activity generated an average of 13 tonnes of food waste recycled per month from July 2020. The food waste recycling is being carried out in three phases:

97.98  
**METRIC TONNE**  
Food Waste generated in 2020

- 1 Food waste collection in Signatures Food Court commencing February 2020
- 2 Kitchen waste in Signatures Food Court commencing July 2020
- 3 Food waste from supermarkets, restaurants and Rasa Food Court commencing January 2021

How Food Waste are Collected and Delivered to the Processing Plant

All food waste from the food court are deposited into 20 Litre pails which are then deposited into 200 Litre blue plastic drums located at the refuse rooms at the mall's loading bay. Food waste from the Isetan and Cold Storage supermarkets are segregated and deposited into 30 units of blue plastic drums.



- During collection, the food waste is sorted into two types of waste and stored in separate bins:
- ✓ Raw waste, comprising leftover fruits and vegetables which are mainly generated from the supermarkets
  - ✓ Leftover cooked food from kitchens and diners

The food waste which are deposited into the blue plastic drums, is kept securely to prevent foul smell from emitting and pest infestation. The full drums are then weighed before being delivered to Entofood Sdn. Bhd., one of the pioneers in food waste recycling in Malaysia.

Processing and Feeding Operation

Once the food waste is delivered to the processing plant, preliminary inspection is conducted to ensure no contaminants such as plastics or chemicals are present in the food waste. The food waste is then blended using a shredder and stored in a large tank to be treated using organic fermentation technique to prolong their storage life.

The homogenized food waste will then be fed to the larvae known as black soldier fly using either manually or by machine assisted method. The black soldier fly larvae will consume the food waste equivalent to their size each day and grown into prepupae in about two weeks. The flies feed on waste food made up of unused or undervalued organic waste before producing the larvae, which is used as protein in the rapidly expanding global aquaculture and agriculture industries.

The larvae are bred into adult black soldier flies when they would lay their eggs. Once the black soldier fly larvae turns into pupae, they are transferred to an aviary where they can hatch into adult black soldier flies. The adult black soldier flies will then lay their eggs into specially designed egg catchment device. The eggs are then collected and sold in bulk to Veolia Bioconversion Sdn Bhd., a specialist in animal feed processing. The eggs are bred into larvae using plant only food and industrial waste such as spent grain from beer brewery. Before the larvae turns into adult black soldier flies, they are harvested and processed into animal feed and exported.



By doing their bit in recycling food waste, Suria KLCC is taking a step ahead in making a difference and protecting our planet. Whilst the food waste recycling effort help reduced environmental degradation, it also contributes towards making the most of a valuable resource as food waste can be used for many practical purposes.

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**Responsible Material Use**

At KLCCP Stapled Group we continue to promote the use of environmentally friendly products throughout our operations as part of our effort in contributing towards minimising the adverse impact to the environment for the well-being of our community. Responsible material use and sourcing is important to us for ethical practices and for the future for our business. We believe that by taking responsibility for the well-being of the environment and the people, we create a future where environmentally friendly products we need will continue to be available.

*Initiatives for the Year*

<b>PETRONAS Twin Towers</b>	<ul style="list-style-type: none"> <li>Reuse of office furniture at KLCCUH's office for operations and maintenance office</li> <li>Carpet flooring and adhesive used for Fit-Out are from recycled materials and low in Volatile Organic Compound (VOC)</li> <li>Specified in contract with vendors on the requirements to use eco-friendly materials for the fittings at floors of the Workplace For Tomorrow (WFT)</li> <li>Inclusion of clause in contractors' agreements on use of environmentally friendly materials in maintenance work</li> </ul>
<b>MOKL Hotel</b>	<ul style="list-style-type: none"> <li>Increase use of local and sustainable products i.e.:                             <ul style="list-style-type: none"> <li>- Coffee (98%)</li> <li>- Tea (95%)</li> <li>- Vanilla (49%)</li> <li>- Cocoa (59%)</li> </ul> </li> <li>Use of Forest Safety Council (FSC/ PEFC) recycled paper products at 69% compliance</li> <li>Increase use of sustainable seafood at 48% compliance</li> </ul>
<b>KLCC Park</b>	<ul style="list-style-type: none"> <li>Bio-degradable materials and organic fertilisers are used for landscaping at KLCC Park</li> </ul>

**Biodiversity**

Biodiversity is integral for a healthy and stable environment and at KLCCP Stapled Group, our biodiversity effort is reflected in the 50-acre park which we developed and maintain as a green lung in the middle of the 100-acre KLCC Development. Conservation and biodiversity were the major influence in the development of the park. 23 mature trees of rare species were saved from the former turf club ground and transplanted onto the current park grounds. Currently there are 1,700 indigenous trees which include species that attract local and migratory birds and 66 species of palms planted at the park to promote biodiversity.

In addition to this biodiversity effort, we also encourage employees to participate in environmental conservation programmes organised annually to inspire and to create greater awareness on the importance of biodiversity and to create a greener environment for the well-being of our community.

*Initiatives for the Year*

<b>Coral Planting</b>	<ul style="list-style-type: none"> <li>About 24 KLCC Parking Management's staff participated in the coral planting initiative in Langkawi island on 28 February 2020 to improve reef quality in terms of live coral cover, biodiversity and topographic complexity. The coral reef was badly affected by the 2004 tsunami which hit some part of the island. The planting activity was carried out under the expert guidance of Marine and Coral Curator</li> </ul>
<b>Trees' Health Assessment at KLCC Park</b>	<ul style="list-style-type: none"> <li>A certified Arborist was appointed to conduct an assessment on 1,700 trees at the KLCC Park. These include carrying out trees inventory, tree risk assessment and the trees' health condition to determine the trees' health, structure and site condition. Out of the total number, 327 trees were classified with excellent health, 1,088 trees have an average health while 207 trees were classified as fair. 69 trees were not suitable to be planted at site and need to be replaced</li> </ul>