

6.5 OBJECTIVES, STRATEGIES AND ACTIONS PRINCIPLE 5 - GREEN DEVELOPMENT AND CLEAN ENVIRONMENT



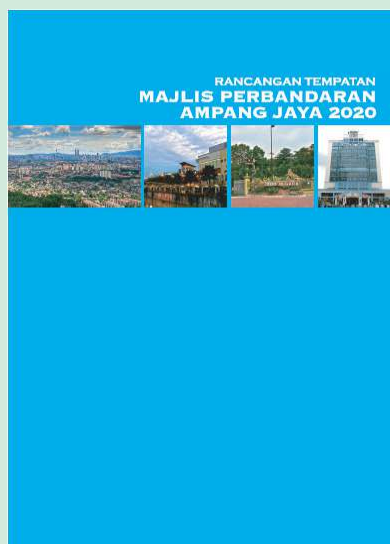
- OBJECTIVE 5.1** : The Implementation Of Green Elements In Urban Development
- STRATEGY 5.1.1** : Incorporating elements of green development in all planning documents
- ACTION 5.1.1.1** : **Ensure all development plans incorporate the elements of green development and low carbon cities comprehensively**

Justification: To ensure that all development plans prepared address mitigating actions towards climate change issues and incorporate green developments towards sustainable cities for future generations.

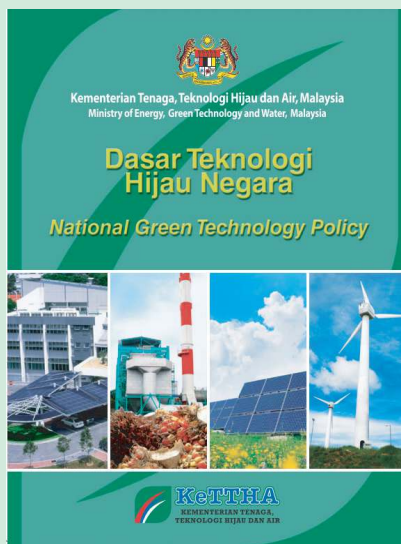
MONITORING AGENCY	:	JPBD SM
IMPLEMENTING AGENCY	:	JPBD Negeri
SUPPORTING AGENCY	:	Local Authorities, KeTTHA

Monitoring Indicator (at City Level)	Number of Development Plans that incorporate measures in the National Green Technology Policy and the National Policy on Climate Change		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	(Monitoring Period : 2018)

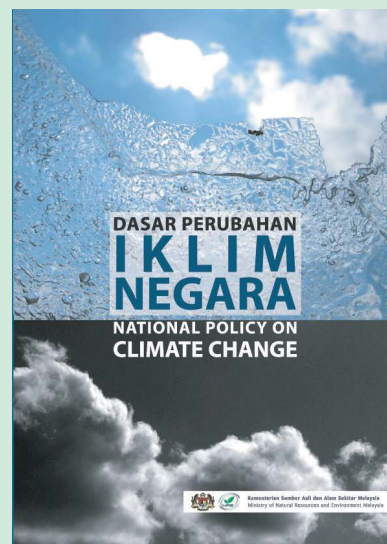
Illustration/ Best Practice/ Example



Development Plans have to incorporate actions in the National Green Technology Policy and the National Policy on Climate Change



National Green Technology Policy



National Policy on Climate Change

- OBJECTIVE 5.1** : The Implementation Of Green Elements In Urban Development
- STRATEGY 5.1.1** : Incorporating elements of green development in all planning documents
- ACTION 5.1.1.2** : **Undertake training on green development planning and national climate change**

Justification: Increase the level of competency amongst all levels of government service to implement planning and development of green and low carbon cities as knowledge and expertise in this area is still at infancy stage

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	i-KPKT, JPBD Negeri
SUPPORTING AGENCY	:	JPBD SM, KeTTHA, Local Authorities, Professional Bodies

Monitoring Indicator (at City Level)	Number of training courses on green development and climate change organized by implementing agencies		
Performance Measurement	>6	Very Satisfactory	
	2 - 6	Satisfactory	
	<2	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	(Monitoring Period : 2018)

Illustration/ Best Practice/ Example

Example of a course related to green development and climate change organized by the Green Technology Corporation Malaysia

Source: <http://www.kkr.gov.my/ms/node/34173>

- OBJECTIVE 5.2** : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.1** : Increase the number of participants in green building and low carbon township accreditation
- ACTION 5.2.1.1** : **Encourage the construction of more green and low carbon buildings**

Justification: Globally, buildings generate 15% of greenhouse gas emission. Hence, increase in the number of buildings with accreditation in Green Building Index (GBI), MyCREST, Green RE, LEEDs, etc. will help reduce greenhouse gas emissions.

MONITORING AGENCY	:	JPBD SM
IMPLEMENTING AGENCY	:	JPBD Negeri
SUPPORTING AGENCY	:	KeTTHA, REHDA, CIDB, JKR, Professional Bodies, Local Authorities
Monitoring Indicator (at City Level)	Number of new buildings with green or low carbon accreditation in every city based on the approved Building Plans	
Performance Measurement	>80% 50% - 80% <50%	Very Satisfactory Satisfactory Unsatisfactory
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)

Illustration/ Best Practice/ Example



The Wisma Shell in Cyberjaya received Gold status in Leadership in Energy and Environmental Design (LEED), is an example of green development in Malaysia

- OBJECTIVE 5.2** : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.1** : Increase the number of participants in green building and low carbon township accreditation
- ACTION 5.2.1.2** : **Retrofitting government buildings using green and low carbon technology**

Justification: The government has issued instructions for each department to make procurements based on green principles. This is to encourage the expansion of the green technology sector and reduce greenhouse gas emission.

MONITORING AGENCY	: KKR
IMPLEMENTING AGENCY	: JKR
SUPPORTING AGENCY	: State Authorities, KeTTHA, Local Authorities

Monitoring Indicator (at City Level)	Number of government buildings retrofitted using green technology in every urban centre		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term	: 2017 - 2020	
	(Monitoring Period	: 2021)	

Illustration/ Best Practice/ Example



The New Academic Street RMIT University which retrofitted the buildings themselves

Source: <https://www.rmit.edu.au/study-with-us/building-construction-and-planning/construction-and-project-management/support-information-/5-benefits-of-retrofitting-buildings/>

Sekolah Kebangsaan Karak, Pahang Jln Jamek Karak, Pahang

- OBJECTIVE 5.2** : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.2** : Reduction in carbon intensity through reduction in the use of energy and water in buildings
- ACTION 5.2.2.1** : **Provide incentives for households using green technology facilities**

Justification: Encourage house owners to reduce energy use to save costs and reduce carbon emission. For example: MBPJ - Assessment Tax Incentive for environmentally friendly homes (eligible individual owners will receive 100% assessment tax rebates or RM500, whichever is lower, in the form of debit on the assessment rates.

MONITORING AGENCY	:	KeTTHA
IMPLEMENTING AGENCY	:	Local Authorities
SUPPORTING AGENCY	:	KPKT, JPBD Negeri

Monitoring Indicator (at City Level)	Number of houses receiving incentives for using renewable energy (TBB)		
Performance Measurement	>50%	Very Satisfactory	
	20% - 50%	Satisfactory	
	<20%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	(Monitoring Period : 2018)

Illustration/ Best Practice/ Example

MBPJ: Go green and get rewarded – TheStar

By EDWARD R. HENRY edward@thestar.com.my

THE Petaling Jaya City Council (MBPJ) had embarked on a green initiative to encourage and reward residents to care for the environment.

The initiative, PJ Low Carbon Green Rebate Assessment Scheme, will reward residents for their effort.

Source: <https://selangorhijau.wordpress.com/2011/08/23/go-green-and-get-rewarded-thestar/>

Go green and get rewarded

BY EDWARD R. HENRY

THE Petaling Jaya City Council (MBPJ) had embarked on a green initiative to encourage and reward residents to care for the environment.

The initiative, PJ Low Carbon Green Rebate Assessment Scheme, will reward residents for their effort.

Practices such as composting, using a solar water heater or collecting rain water for washing are considered "green".

State executive councillor in charge of Environment, Tourism and Consumer Affairs Elizabeth Wong said environmental friendliness was a good effort and MBPJ's rebate assessment scheme could create a green revolution.

"Residents can take part in activities to green their homes in simple acts of composting or even buying energy-efficient appliances," she said.

MBPJ will give rebates of up to RM500 in annual assessment to residents who incorporate energy-efficient methods or follow a green lifestyle.

Residents can get the forms from the council and send it by Oct 21 for the rebate.

Wong, who launched the scheme at the council yesterday, said housewives could

Source: <http://www.thestar.com.my/news/community/2011/08/23/go-green-and-get-rewarded/>

- OBJECTIVE 5.2** : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.2** : Reduction in carbon intensity through reduction in the use of energy and water in buildings
- ACTION 5.2.2.2** : **Provide incentives for retrofitting old business premises to reduce consumption of energy and water**

Justification: Encourage retrofitting of old business premises towards reducing energy and water consumption. The local authority must decide the type of incentive to be given, such as waiver of assessment rates.

MONITORING AGENCY	: KPKT, KeTTHA
IMPLEMENTING AGENCY	: Local Authorities
SUPPORTING AGENCY	: MGTC, CIDB
Monitoring Indicator (at City Level)	Provision of incentives to owners of old buildings who have obtained a green rating
Performance Measurement	Yes Satisfactory No Unsatisfactory
Application by Hierarchy of Centres	1 : Global City 2 : Regional Centre 3 : State Capital 4 : Main Centre 5 : Local Centre
Implementation Time Frame	Medium Term : 2017 - 2020 (Monitoring Period : 2021)

Illustration/ Best Practice/ Example

The screenshot shows the National Trust for Historic Preservation website. The main content area features a large image of a historic building with a blue banner that reads "Deep Energy Retrofits for Existing Buildings". Below the image is a text block starting with "The Green Lab is partnering with New Buildings Institute on a project called Deep Energy Savings In Existing Buildings...". To the right of the main content are three sidebar boxes: "DONATE Help the National Trust for Historic Preservation save places", "JOIN Become a Preservation Leadership Forum member", and "Nemours, Mansion & Gardens" with a photo of a large estate. At the bottom of the sidebar is a "Sustainable Communities" section with links for "Creating Sustainable Communities", "Greening Older and Historic Buildings", and "Preservation Green Lab".

Source: <http://www.preservationnation.org/information-center/sustainable-communities/green-lab/getting-to-50.html?referrer=https://www.google.com/#.VyqI54R96Cg>

- OBJECTIVE 5.2 : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.3 : Reduction in carbon intensity through reduction in the use of energy and water in buildings
- ACTION 5.2.3.1 : **Encourage the development of renewable energy such as wind turbine, solar farms and bio-gas stations in suitable areas**

Justification: Encourage use of renewable energy in all sectors especially commerce, industry and services towards reducing energy use in urban centres.

MONITORING AGENCY	:	KeTTHA
IMPLEMENTING AGENCY	:	TNB Negeri
SUPPORTING AGENCY	:	PTG, SEDA, Private Sector, Local Authorities
Monitoring Indicator (at City Level)	Provision of sites for renewable energy in every urban centre	
Performance Measurement	Yes	Satisfactory
	No	Unsatisfactory
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)

Illustration/ Best Practice/ Example



CoolTek Home located in Malacca was the first solar energy home in Malaysia

Source: <http://ohcikgu.com/2014/02/28/cooltek-home-perintis-pertama-rumah-tenaga-solar-di-malaysia/>

- OBJECTIVE 5.2** : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.4** : Development of urban mobility oriented towards pedestrianization, cycling and public transport
- ACTION 5.2.4.1** : **Provide a comprehensive sheltered pedestrian paths and cycling network connecting one area to another and from one building to another**

Justification: Encourage the public to walk and cycle for daily activities to reduce carbon and encourage a healthier lifestyle.

- MONITORING AGENCY** : JPBD Negeri
- IMPLEMENTING AGENCY** : Local Authorities
- SUPPORTING AGENCY** : JKR, NGO, Residents' Associations

Monitoring Indicator (at City Level)	Number of urban centres with covered pedestrian walkways or cycling lanes		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



Covered pedestrian and cycling paths SECC, Glasgow

Source: <https://witness.theguardian.com/assignment>



Covered walkway connecting the Kuala Lumpur Convention Centre (KLCC) with Bukit Bintang

Source: <http://www.kuala-lumpur.ws/attractions/bb-klcc-pedestrian-walkway.htm>

- OBJECTIVE 5.2** : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.4** : Development of urban mobility oriented towards pedestrianization, cycling and public transport
- ACTION 5.2.4.2** : **Provide bicycle parking/ storage at community centres, commercial centres, government buildings and public transportation terminals**

Justification: To increase the provision of bicycle storage that are safe, orderly and free. This is to encourage more people to practise a healthier life style.

- MONITORING AGENCY** : JPBD Negeri
- IMPLEMENTING AGENCY** : Local Authorities
- SUPPORTING AGENCY** : Developer, NGO, Residents' Associations

Monitoring Indicator (at City Level)	Local authorities that provide bicycle racks at the urban centre		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



The provision of bicycle storage that are safe, orderly and suitable can encourage people to lead a healthy lifestyle

OBJECTIVE 5.2 : More Efficiently And Sustainably Use Of Energy

STRATEGY 5.2.5 : Reduce carbon emission from vehicles

ACTION 5.2.5.1 : **Provide special parking for hybrid and electric vehicles in the city (detailing of NUP 2006)**

Justification: Encourage the use of hybrid and electric vehicles to reduce carbon emission. As an example, a one (1) kilometer journey of a conventional vehicle using petrol can generate 0.26 kg of carbon.

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	Local Authorities
SUPPORTING AGENCY	:	KeTTHA, JPBD SM, Car Seller Associations, Consumer Associations

Monitoring Indicator (at City Level)	Incentives given by the local authority for those using hybrid and electric vehicles		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



COMOS vehicles using electricity



Incentive provided to owners of hybrid vehicles such as providing special parking bays

- OBJECTIVE 5.2 : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.5 : Reduce carbon emission from motor vehicles
- ACTION 5.2.5.2 : **Encourage the increase in the number of petrol stations that provide natural gas for vehicles (NGV)**

Justification: Reduce use of carbon from petrol compared to natural gas.

MONITORING AGENCY	:	KeTTHA
IMPLEMENTING AGENCY	:	Petrol Supplier Company
SUPPORTING AGENCY	:	Petrol station operator, Local Authorities

Monitoring Indicator (at City Level)	Number of petrol stations that provide NGV services in each urban centre		
Performance Measurement	>10%	Very Satisfactory	
	3% - 10%	Satisfactory	
	<3%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



PETRONAS stations are the stations that provide NGV services in Malaysia

- OBJECTIVE 5.2** : More Efficiently And Sustainably Use Of Energy
- STRATEGY 5.2.5** : Reduce carbon emission from motor vehicles
- ACTION 5.2.5.3** : **Increase the construction and provision of charging bays for hybrid and electric vehicles**

Justification: Reduce carbon emission from petroleum and diesel use.

MONITORING AGENCY	:	KeTTHA
IMPLEMENTING AGENCY	:	Private Sector
SUPPORTING AGENCY	:	TNB, Local Authorities, Petrol Station Operator
Monitoring Indicator (at City Level)	Urban centres with charge bay stations for hybrid and electric vehicles	
Performance Measurement	>80% 50% - 80% <50%	Very Satisfactory Satisfactory Unsatisfactory
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)

Illustration/ Best Practice/ Example



Charging bays for electric vehicles located at Jalan Sultan Ismail

- OBJECTIVE 5.3 : Healthy Lifestyle Improvement And Clean Air In City
- STRATEGY 5.3.1 : Reduce air pollution in cities
- ACTION 5.3.1.1 : **Reduce private vehicle use in the city by organizing “Car Free Days” periodically (detailing of NUP 2006)**

Justification: Reduce carbon emission in cities and encourage healthier lifestyles as well as create better awareness amongst the public regarding carbon emission and its impact on climate change.

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	Local Authorities
SUPPORTING AGENCY	:	JAS, Private Sector, Residents’ Associations

Monitoring Indicator (at City Level)	Urban centres with “Car Free Days”		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	: 2018

Illustration/ Best Practice/ Example



Source: https://c2.staticflickr.com/6/5479/13914251829_4803a06510.jpg



Source: <http://budakletrik.blogspot.com/2014/09/pagi-bebas-kenderaan-kuala-lumpur-2014.html>

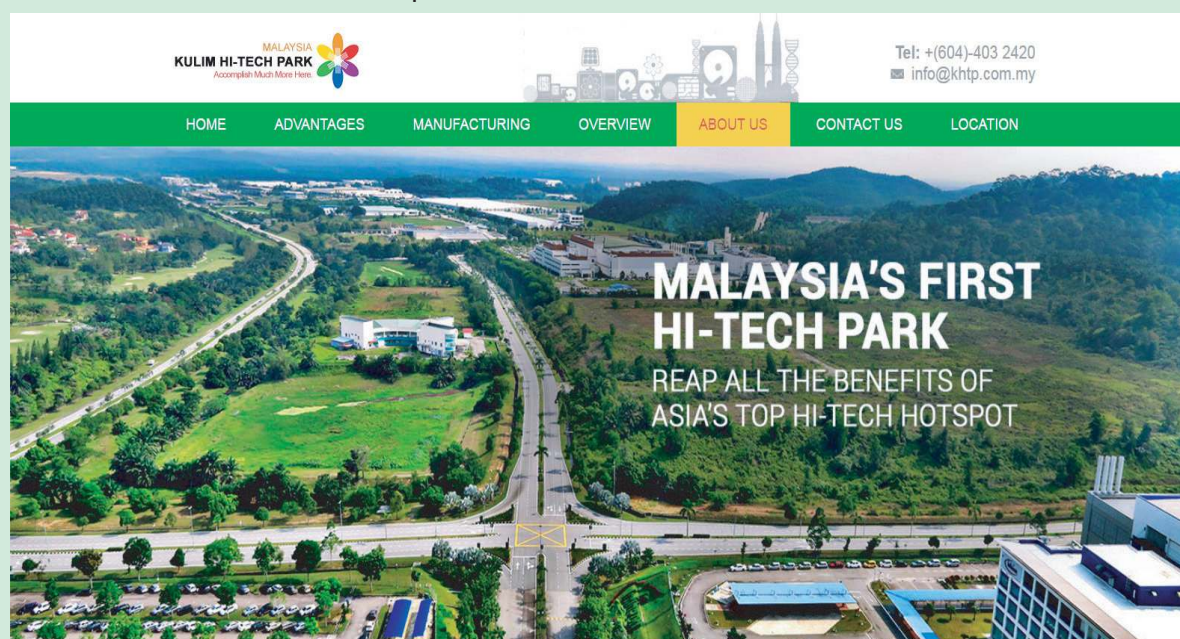
- OBJECTIVE 5.3** : Healthy Lifestyle Improvement And Clean Air In City
- STRATEGY 5.3.1** : Reduce air pollution in cities
- ACTION 5.3.1.2** : **Encourage the development of integrated industrial parks that incorporates the concept of an eco-industrial park (detailing of NUP 2006)**

Justification: Ensure industrial development that is environmentally friendly and safe by using green technology.

MONITORING AGENCY	:	MITI
IMPLEMENTING AGENCY	:	UPEN
SUPPORTING AGENCY	:	Private Sector

Monitoring Indicator (at City Level)	Urban centres with an integrated industrial area that incorporate the concept at eco-industrial parks		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Long Term	: 2017 - 2025	
	(Monitoring Period	: 2023)	

Illustration/ Best Practice/ Example



Source: <http://www.khtp.com.my/about/>

- OBJECTIVE 5.4** : Efficient And Sustainable Management Of Water Body
- STRATEGY 5.4.1** : Reduce water pollution in urban areas
- ACTION 5.4.1.1** : **Upgrade sewerage treatment plants to environmentally friendly (detailing of NUP 2006)**

Justification: Reduce sewerage pollution into water resources

- MONITORING AGENCY** : KeTTHA, KPKT
- IMPLEMENTING AGENCY** : JPP
- SUPPORTING AGENCY** : Local Authorities, IWK, JAS

Monitoring Indicator (at City Level)	Urban areas with an upgraded environmentally friendly sewerage treatment plants		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term	: 2017 - 2020	
	(Monitoring Period	: 2021)	

Illustration/ Best Practice/ Example



Sewerage treatment plant located in Hulu Langat



The Pantai 2 sewerage treatment plant, located in Pantai Dalam, Kuala Lumpur is the largest in Malaysia

Source: <http://www.utusan.com.my/sains-teknologi/alam-sekitar/loji-rawatan-kumbahan-terbesar-1.304686>

OBJECTIVE 5.4 : Efficient And Sustainable Management Of Water Body

STRATEGY 5.4.1 : Reduce water pollution in urban areas

ACTION 5.4.1.2 : **Ensure villages in urban centres have central sewerage treatment plants (detailing of NUP 2006)**

Justification: Reduce water pollution resulting from sewerage.

MONITORING AGENCY	:	KETTHA
IMPLEMENTING AGENCY	:	Sewerage Services Department
SUPPORTING AGENCY	:	Local Authorities, JKKK, IWK, JAS

Monitoring Indicator (at City Level)	Number of villages within the city connected to the central sewerage treatment plants		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Long Term (Monitoring Period	: 2017 - 2025 : 2023)	

Illustration/ Best Practice/ Example



The Pantai 2 Sewerage Treatment Plant in Federal Territory Kuala Lumpur is a new innovative project to upgrade open treatment plants to a closed underground one complete with public services.

Source: <http://www.pantai2stp.com.my/>

- OBJECTIVE 5.4** : Efficient And Sustainable Management Of Water Body
- STRATEGY 5.4.1** : Reduce water pollution in urban areas
- ACTION 5.4.1.3** : **Establish centre for collection of used cooking oil (detailing of NUP 2006)**

Justification: Reduce the volume of cooking oil thrown into drains and polluting rivers and the sea. Used cooking oil can be recycled and processed into bio-gas to generate energy.

MONITORING AGENCY	:	KPKT, KeTTHA
IMPLEMENTING AGENCY	:	Local Authorities
SUPPORTING AGENCY	:	NGO, Resident Association

Monitoring Indicator (at City Level)	Urban centres that have collection centres for used cooking oil		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	(Monitoring Period : 2018)

Illustration/ Best Practice/ Example

Pakar pemakanan ingatkan orang ramai tentang bahaya guna minyak masak berulang kali
Racun dalam minyak kitar semula

KUALA LUMPUR - Dua pakar pemakanan memperingatkan orang ramai supaya tidak menggunakan minyak masak kitar semula lebih daripada tiga kali kerana dikawatirkan ia telah bertukar menjadi racun akrolein yang boleh mengakibatkan kerosakan kepada hati. Pakar Perubatan Pakar Perubatan dan Dietetik Universiti Perubatan Antarabangsa (IDU), Profesor Dr. Fatimah Arshad (gambar kecil) berkata, kebanyakannya minyak kitar semula yang sudah bertukar bebudanan melalui proses chemical ini turut mengandungi karsinogen lain iaitu kalsium yang menjadi punca kanser.

"Jika pengguna terbelah dalam tempoh jangka masa panjang dengan minyak masak yang sudah tercemar itu, risiko untuk mereka diserang penyakit kanser adalah amat tinggi," katanya kepada *Kosmo* semalam.

Berikutan berikutan, orang ramai akan-selalunya menggunakan minyak masak sebanyak tiga kali sahaja untuk mengering masakan.

"Jika digunakan secara berketetapan, ia mungkin menjadikan kesihatan pengguna dalam jangka masa panjang, dengan se-selagi guna minyak berkualiti kesihatan kerana ia memang sudah tidak sesuai digunakan lagi," katanya.

Sementara itu, pakar pemakanan tentang keselamatan terdahulu minyak masak kitar semula yang diproses daripada minyak yang dikumpul daripada dapur restoran tidak boleh sebagai dijumpai kepada peniaga-peniaga pasar malam.

"Seorang lagi pakar pemakanan, Profesor Madya Dr. Mohd. Saklim Abdul Mutalib berkata, penggunaan minyak kitar semula adalah sangat berisiko kepada kesihatan manusia.

Katanya, sangat sukar untuk menentukan sama ada sesuatu minyak terdahulu adalah kitar semula atau tidak kerana ia tidak bertulis. Pakar pemakanan moden bagi memastikannya ia sukar dikenal.

"Terdapat masa kini terdapat beberapa alat penapisan minyak dijumpai dipasaran terbaharu dan ia akan mengeluarkan pakej antibiotik untuk mengawal kebakterian yang lebih."

"Minyak masak yang dikitar semula ini

Mufti: Wajib elak guna bahan bawa mudarat

KUALA LUMPUR - Mufti Selangor, Datuk Mohd. Tunjaya Abul Wahid menegaskan adalah wajib untuk umat Islam tidak menggunakan minyak masak yang dikitar semula jika pihak berwajib seperti Kementerian Kesihatan mengesahkan ia beracun.

Debat berakut, agama dalam itu sendiri melarang umat melakukan sesuatu perkara atau menggunakan sesuatu benda jika ia boleh menyebabkan kemudaratan.

"Jika ada kenyataan yang dikeluarkan oleh Kementerian Kesihatan berhubung perkara tersebut, baharunya adalah wajib didedahkan kerana perkara tersebut membawa kerosakan kepada diri sendiri."

"Hakikat menggunakan bahan beracun yang membawa kemudaratan kepada diri sendiri boleh disamakan seperti merokok kerana melibatkan diri ke arah kemudaratan," katanya ketika dihubungi *Kosmo* di sini semalam.

Berikutan berikutan demikian ketika mengulas kenyataan beberapa pakar pemakanan yang menggunakan orang ramai tentang bahaya minyak masak yang digunakan beberapa kali boleh bertukar menjadi racun akrolein yang menjadi punca barah.

Siasat minyak dari dapur rumah

INFO Racun Akrolein

● Terhasil apabila minyak masak dipanaskan pada suhu tinggi dan bertukar warna kehitaman atau hangus.

● Ia terjadi apabila bahan makanan yang dipanaskan itu mengalami proses dehidrasi atau kehilangan air.

● Akibatnya jadi boleh terhasil daripada makanan beracukan karbohidrat, minyak sayuran, lemak dan asam amino yang dimasak dengan suhu tinggi.

uhab; kali juga boleh menyebabkan tahap kebakterian hidrokarbon di dalam tubuh manusia meningkat.

Kesihatan itu adalah juga menyebabkan sahar aserti terasulat, hipertensi dan merosakkan hati.

Pembaca setia Kosmo!

HODA AZIZAH ALMAN MOHD. ISHAR (2017)



A collection counter for used cooking oil at a Ramadan night market, set up by Shah Alam Municipal Council

Source: <http://bm.selangorku.com/77526/bawa-bekas-guna-semula-elak-pencemaran/>

Source: Akhbar KOSMO, 2013

- OBJECTIVE 5.4** : Efficient And Sustainable Management Of Water Body
- STRATEGY 5.4.1** : Reduce water pollution in urban areas
- ACTION 5.4.1.4** : **Installation of suitable treatment system of sullage and grey water at all food based outlets (detailing of NUP 2006)**

Justification: Avoid untreated disposal and flow of greywater and sullage directly into drains that will pollute rivers. Examples of food outlets include food courts, restaurants, etc.

- MONITORING AGENCY** : KPKT, KeTTHA
- IMPLEMENTING AGENCY** : Local Authorities, JPP
- SUPPORTING AGENCY** : NRE, JPSPN, JAS, JPS

Monitoring Indicator (at City Level)	Number of treatment systems at food based outlets in the urban centre		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	
	(Monitoring Period	: 2018)	

Illustration/ Best Practice/ Example



Grease traps installed at food premises

Source: <https://balannambiar.wordpress.com/2011/04/11/perangkap-minyak-di-restoren-anda/>

- OBJECTIVE 5.4 : Efficient And Sustainable Management Of Water Body
- STRATEGY 5.4.1 : Reduce water pollution in urban areas
- ACTION 5.4.1.5 : **Enforce the Polluter Pays Principle on industries that do not comply with emission standards (detailing of NUP 2006)**

Justification: Ensuring that industries do not contribute to air and water pollution that can jeopardize the people's quality of life. For example, the Polluter Pays Principle is used to get the polluter to pay for cleaning up and restoration costs as a result of the pollution.

MONITORING AGENCY	:	NRE, KPKT
IMPLEMENTING AGENCY	:	Local Authorities, JAS, JPS
SUPPORTING AGENCY	:	JPP

Monitoring Indicator (at City Level)	Local Authorities that implement the Polluter Pays Principle		
Performance Measurement	>50%	Very Satisfactory	
	20% - 50%	Satisfactory	
	<20%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



The Polluter Pays Principle is used on the industrialist who pollutes to undertake the costs of cleaning up and restoration as a result of the pollution.

Source: <http://www.jurnal3.com/wp-content/uploads/2015/04/sekar-laut-1.jpg>

OBJECTIVE 5.4 : Efficient And Sustainable Management Of Water Body

STRATEGY 5.4.2 : Increase the potential of water bodies as recreational areas in the city

ACTION 5.4.2.1 : **Formulate a comprehensive Blue Corridor Plan in all urban areas**

Justification: Ensure all water bodies and recreational areas are protected for future generations, as well as reduce urban heat island.

MONITORING AGENCY	:	JPBD SM
IMPLEMENTING AGENCY	:	JPBD Negeri
SUPPORTING AGENCY	:	JLN, NGO, JPS, Local Authorities

Monitoring Indicator (at City Level)	Local authorities with a Blue Corridor Plan		
Performance Measurement	Yes No	Satisfactory Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



Taman Tasik Taiping, Perak



Taman Tasik Titiwangsa, Kuala Lumpur

The Taiping Lake Gardens and Titiwangsa Park lakes are very popular recreational areas

- OBJECTIVE 5.4 : Efficient And Sustainable Management Of Water Body
- STRATEGY 5.4.2 : Increase the potential of water bodies as recreational areas in the city
- ACTION 5.4.2.2 : **Gazette all river reserves and retention ponds in urban area**

Justification: Ensure these areas are retained as recreational and pondage areas to contain urban surface water run off and reduce flash floods.

MONITORING AGENCY	:	State Authority
IMPLEMENTING AGENCY	:	SUK, JPS Negeri
SUPPORTING AGENCY	:	JPBD Negeri, PTD, PTG, Local Authorities

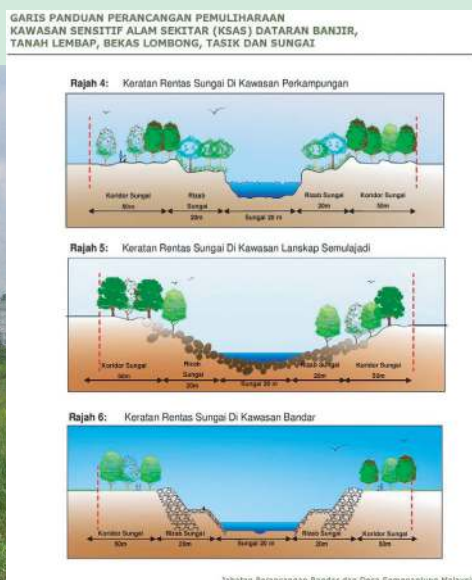
Monitoring Indicator (at City Level)	Number of gazetted river reserves and ponds in each urban area		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Long Term (Monitoring Period	: 2017 - 2025 : 2023)	

Illustration/ Best Practice/ Example



Flood pondage area in Puah, Selangor

Source: <http://binamekar.com/ongoing-projects/>



Jabatan Perancangan Bandar dan Desa Semenanjung Malaysia

Source: *Jabatan Perancangan Bandar dan Desa Semenanjung Malaysia, 2010*

OBJECTIVE 5.5 : Increase In Size, Quality And Number Of Open Spaces

STRATEGY 5.5.1 : Macro planning for open spaces

ACTION 5.5.1.1 : **Ensure all current open spaces are gazetted**

Justification: Ensuring open spaces do not have any development and are retained as recreational areas for future generations.

MONITORING AGENCY	:	State Authority
IMPLEMENTING AGENCY	:	PTG
SUPPORTING AGENCY	:	JPBD SM, JPBD Negeri, Local Authorities

Monitoring Indicator (at City Level)	Total area of gazetted open spaces in the urban area		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



Children's play areas are amongst the open spaces that should be retained as recreational areas for future generations

OBJECTIVE 5.5 : Increase In Size, Quality And Number Of Open Spaces

STRATEGY 5.5.1 : Macro planning for open spaces

ACTION 5.5.1.2 : **Use innovative designs to create public open spaces that have high social values based on unique local characteristics**

Justification: Unique characteristics of open spaces include incorporating innovative designs that will allow different activities.

MONITORING AGENCY	:	JPBD SM
IMPLEMENTING AGENCY	:	Local Authorities
SUPPORTING AGENCY	:	Professional Bodies, REHDA, NGO

Monitoring Indicator (at City Level)	Number of urban centres that have open spaces with innovative designs		
Performance Measurement	>50%	Very Satisfactory	
	20% - 50%	Satisfactory	
	<20%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term	: 2017 - 2020	
	(Monitoring Period	: 2021)	

Illustration/ Best Practice/ Example



Recreational and open spaces that are innovative can help inculcate high social values amongst its users

Source: <https://togetherweplay.playlsi.com/category/design/nature-inspired/>

OBJECTIVE 5.6 : Increase In Size And Quality Of Green Areas

STRATEGY 5.6.1 : Increase efforts to protect trees in the city

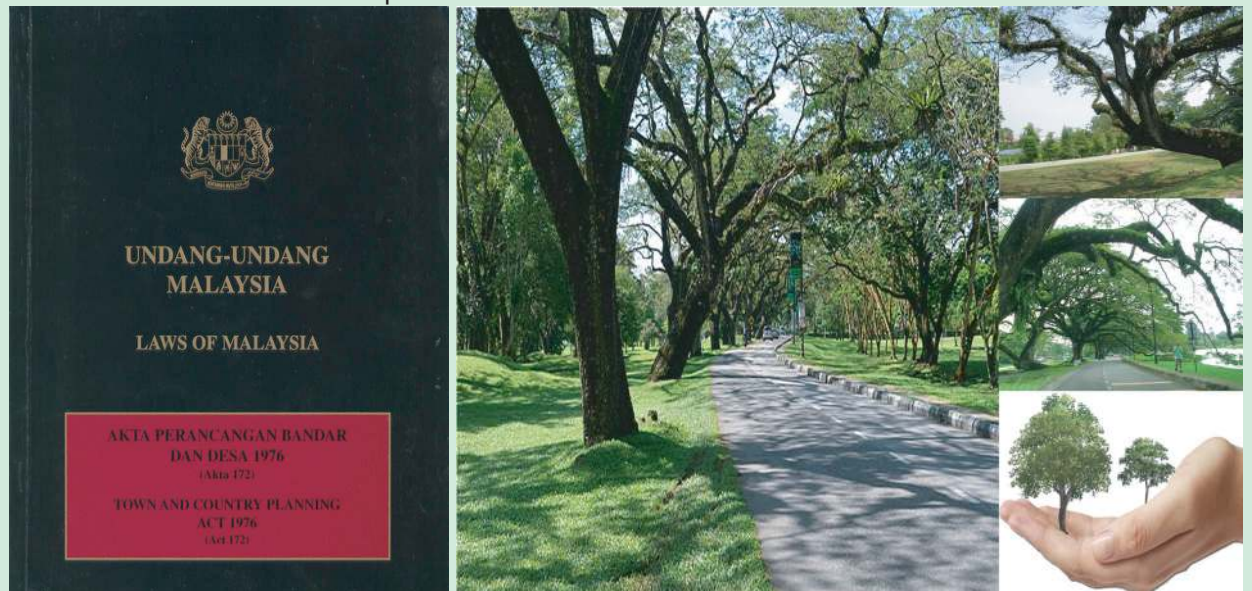
ACTION 5.6.1.1 : **Enforce the Tree Preservation Order under Section 35A - 35H Town and Country Planning Act 1976 [Act 172]**

Justification: Ensure urban trees, especially those exceeding 0.8m girth are not cut without control and ensure actions are taken to name trees and replace them when due, to reduce urban heat island, soil erosion and flash floods.

MONITORING AGENCY	: JPBD SM
IMPLEMENTING AGENCY	: JPBD Negeri
SUPPORTING AGENCY	: JLN, Local Authorities

Monitoring Indicator (at City Level)	Local Authorities that enforce the Tree Preservation Order under Act 172 in all urban areas		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	
	(Monitoring Period	: 2018)	

Illustration/ Best Practice/ Example



The conservation of trees in urban areas are vital to prevent soil erosion, flash floods and reduce the impact of urban heat island

OBJECTIVE 5.6 : Increase In Size And Quality Of Green Areas

STRATEGY 5.6.1 : Increase efforts to protect trees in the city

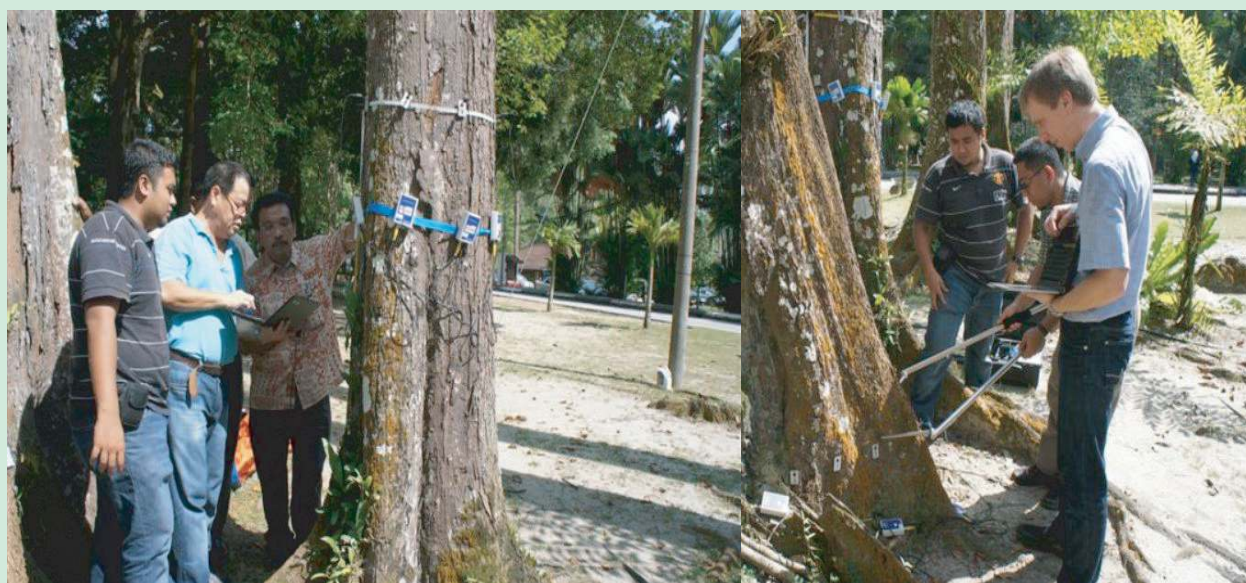
ACTION 5.6.1.2 : **Create the position of an arborist in Local Authorities**

Justification: An arborist is needed to ensure the planning, choice of trees, technical maintenance, conservation and care of trees in the development of landscape and beautification of the city.

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	Local Authorities, JPA
SUPPORTING AGENCY	:	JKT

Monitoring Indicator (at City Level)	Number of local authorities with an arborist		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



The arborist has the main role in the landscape development and beautification of the city

Source: <http://www.frim.gov.my/author/wpadmin/page/7/?lang=ms>

OBJECTIVE 5.6 : Increase In Size And Quality Of Green Areas

STRATEGY 5.6.1 : Increase efforts to protect trees in the city

ACTION 5.6.1.3 : **Prepare a Tree Inventory Plan for the urban area for easy implementation of the Tree Preservation Order under Act 172**

Justification: Assist the local authority to identify the location, type and function of trees for city beautification as well as for tree preservation, particularly those larger than 0.8 metre girth.

MONITORING AGENCY	:	JPBD Negeri
IMPLEMENTING AGENCY	:	Local Authorities
SUPPORTING AGENCY	:	JLN, JPBD SM

Monitoring Indicator (at City Level)	Urban areas with a tree inventory plan		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example

SENARAI SEMAK PERMOHONAN KEBENARAN MERANCANG BAGI PENERANGAN POKOK			
BIL.	PERKARA	STATUS	CATITAN
1.	Surat permohonan rasmi		
2.	Plan-pelan lengkap mestri mempunyai peritukuh disebelah kanan dengan mengandungi :- • Nama Projek • Tandatangan Ajen • Tandatangan Pemohon • Tandatangan Pemilik Tanah • Keratan Rentas Jalan Laluan Utiliti • Sampadan Perlebaran Jalan • Jumlah Pokok Sedia Ada • Pelan Susunatur Jalan / Bangunan • Pelan Kontor		
3.	Pelan Ukur Dan Jurukur Tanah Bertauliah Yang Menunjukkan Saiz Ukur Pokok Yang Diukur 0.8 meter Dari Paras Tanah		
4.	Jadual Inventori Pokok Sedia Ada		
5.	Gambar Foto Pokok Sedia Ada Yang Terlibat Dalam Kawasan Pemajuan Dalam Kertas A4 Dan Dalam Bentuk Cakera Padat (CD)		
Jika Trade Pokok Yang Lebih 0.8 meter			
6.	Surat Pengesahan Dari Jurukur Tanah Bertauliah		
7.	Gambar Kawasan Pemajuan Yang Terlibat Dalam Kertas A4 Dan Dalam Bentuk Cakera Padat (CD)		
8.	Gambar Kawasan Pemajuan Yang Terlibat dalam bentuk gambar Google Earth Yang Dicitak Di Dalam Kertas A4 Dan Dalam Bentuk Cakera Padat (CD)		
9.	Plan Inventori Pokok Sedia Ada yang terbit dengan Perlebaran Jalan Dan Pagar • Bilangan pokok yang dikekalkan (Diwarnakan Hijau) • Bilangan pokok yang diubah tanam (Diwarnakan Oren) • Bilangan pokok yang akan ditanam (Diwarnakan Merah) • Kawasan Datar (Diwarnakan Biru)		



A Tree Inventory Plan will ensure the preservation of trees above 0.8 metre girth as well as for urban beautification

- OBJECTIVE 5.6** : Increase In Size And Quality Of Green Areas
- STRATEGY 5.6.1** : Increase efforts to protect trees in the city
- ACTION 5.6.1.4** : **Encourage provision of rooftop and vertical gardens for buildings in the city (detailing of NUP 2006)**

Justification: Increase provision of green areas in cities to reduce carbon emission and reduce the intensity of urban heat island.

- MONITORING AGENCY** : JPBD SM
- IMPLEMENTING AGENCY** : JPBD Negeri
- SUPPORTING AGENCY** : Developer, Local Authorities

Monitoring Indicator (at City Level)	Local authorities that adopt the Guideline on Rooftop Garden Planning		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



The provision of green areas on buildings can help reduce carbon emission and urban heat island intensity

OBJECTIVE 5.6 : Increase In Size And Quality Of Green Areas

STRATEGY 5.6.1 : Increase efforts to protect trees in the city

ACTION 5.6.1.5 : **Encourage annual tree planting in the city**

Justification: To reduce urban heat island besides increasing greenery and beautification of the city. The number of trees to be planted would depend on the areas and existing trees as well as implement Action Plan 2.1.1 of the National Landscape Policy.

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	JLN
SUPPORTING AGENCY	:	Local Authorities, JPBD Negeri

Monitoring Indicator (at City Level)	Cities that implement annual tree planting and Action Plan 2.1.1 National Landscape Policy		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Long Term	: 2017 - 2025	
	(Monitoring Period	: 2023)	

Illustration/ Best Practice/ Example



Tree Planting will reduce urban heat island besides increasing greenery and beautification of the city

- OBJECTIVE 5.7** : Effective Solid Waste Management To Ensure Clean City
- STRATEGY 5.7.1** : Increase in 3R (Reduce, Reuse, Recycle)
- ACTION 5.7.1.1** : **Undertake public awareness programmes on Separation of Solid Waste at Source and 3R Practices**

Justification: Increase public awareness on the importance of Separation of Solid Waste at Source and 3R Practices so that the public will care for environmental cleanliness and sustainability.

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	Local Authorities, JPSPN, SW Corp.
SUPPORTING AGENCY	:	NGO, Malaysia Information Department, Residents' Association, KPM
Monitoring Indicator (at City Level)	Public awareness programmes on Separation of Solid Waste at Source and 3R Practices that is undertake annually	
Performance Measurement	>3 Very Satisfactory 2 - 3 Satisfactory <2 Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 2 : Regional Centre 3 : State Capital 4 : Main Centre 5 : Local Centre	
Implementation Time Frame	Short Term : 2017 (Monitoring Period : 2018)	

Illustration/ Best Practice/ Example

Separation of solid waste at source started on 1st September 2015 making it compulsory for all premises to separate their solid wastes

OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City

STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)

ACTION 5.7.1.2 : **Encourage Separation of Solid Waste at Source and 3R Practice as part of educating pre-school and school going children**

Justification: Increase awareness on the importance of Separating Solid Waste at Source and Practicing 3R starting from early education so that the people will preserve cleanliness and protect the environment of the city.

MONITORING AGENCY	: Ministry of Education
IMPLEMENTING AGENCY	: State Department of Education
SUPPORTING AGENCY	: Local Authorities, SW Corp., Mass Media

Monitoring Indicator (at City Level)	Schools and pre-schools that incorporate a slot for 3R Practice		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	(Monitoring Period : 2018)

Illustration/ Best Practice/ Example



Teachers play a major role in educating students to separate solid waste by categories, thereby reducing costs at landfills



Students are shown the importance of separation of solid waste at source

Source: <http://www.bharian.com.my/node/78929>

- OBJECTIVE 5.7** : Effective Solid Waste Management To Ensure Clean City
- STRATEGY 5.7.1** : Increase in 3R (Reduce, Reuse, Recycle)
- ACTION 5.7.1.3** : **Give recognition, appreciation and incentive to local authorities and community groups that have been successful in reducing solid wastes annually**

Justification: To encourage 3R approach besides showing appreciation to the local authority and local communities that have been successful in reducing solid wastes collection.

- MONITORING AGENCY** : KPKT
- IMPLEMENTING AGENCY** : JPSPN, SW Corp., Local Authorities
- SUPPORTING AGENCY** : Residents' Association, NGO, PIBG

Monitoring Indicator (at City Level)	Percentage of reduction in solid waste collection annually in each urban area		
Performance Measurement	>10%	Very Satisfactory	
	5% - 10%	Satisfactory	
	<5%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre	3 : State Capital 5 : Local Centre
Implementation Time Frame	Short Term	: 2017	(Monitoring Period : 2018)

Illustration/ Best Practice/ Example



Green Apple Award recognition given to a local authority for having success in solid waste reduction

Source: <http://bm.selangorku.com/87731/mbsa-terima-pengiktirafan-antarabangsa-green-apple-award/>

MBSA terima pengiktirafan antarabangsa 'Green Apple Award'

SHAH ALAM, 3 JAN: Majlis Bandaraya Shah Alam (MBSA) memenangi anugerah bertaraf antarabangsa 'Green Apple Award' baru-baru ini, selepas mengetengahkan hasil daripada Projek Pengurangan Sisa Pepejal Untuk Kelestarian Alam Sekitar yang dilaksanakan di kawasan pentadbirannya.

Ketua Bahagian Korporat dan Perhubungan Awam MBSA, Shahrin Ahmad berkata pihak berkuasa tempatan (PBT) itu memenangi anugerah bagi kategori 'Best Environment Practice'.



Green Apple Award 2015 dianjurkan The Green Organisation yang berpangkalan di United Kingdom, bertujuan menggalakkan kempen alam sekitar dan mengiktiraf amalan menjaga alam sekitar yang diamalkan oleh

sejumlah pertubuhan, organisasi, badan bukan kerajaan (NGO), pihak swasta dan kerajaan dari seluruh dunia, katanya dipetik Bernama.

Beliau berkata melalui penyertaan itu, MBSA mengemukakan inisiatif yang dilaksanakan oleh PBT itu dalam usaha meminimumkan pencemaran alam sekitar disebabkan pembuangan sisa pepejal di kawasan pentadbirannya.

"Penganugerahan dan pengiktirafan ini menjadi dorongan dan motivasi kepada warga kerja MBSA memberi perkhidmatan lebih cekap dan efisien kepada masyarakat.

OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City

STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)

ACTION 5.7.1.4 : **Implement solid waste separation in every home**

Justification: The government has made compulsory for solid wastes to be separated at source from 1st September 2015. This rule will be able to reduce solid waste generation and trips to the land fill besides lengthening the life span of the land fill.

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	JPSPN
SUPPORTING AGENCY	:	Local Authorities, SW Corp., Residents' Association

Monitoring Indicator (at City Level)	Local Authority which impose the separation at source in urban centre		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Short Term	: 2017	(Monitoring Period : 2018)

Illustration/ Best Practice/ Example

ASINGKAN DEMI MASA DEPAN ANAK-ANAK KITA
PENGASINGAN SISA PEPEJAL DI PUNCA
MULAI 1 SEPTEMBER 2015 SEMUA PREMIS
DIWAJIBKAN MENGASINGKAN SISA PEPEJAL

PENTING
 SISA SAMPAH HARUS DI KUMPULAN & DIASINGKAN DI MASA HADAPAN

KEMENTERIAN KESEJAHTERAAN BANDAR, PERUMAHAN DAN KERAJAAN TEMPATAN

<p>LAIN-LAIN SISA ELEKTRONIK/ILESTIK</p> <p>DIGALAKKAN GUNA PLASTIK SAMPAH WARNA HIJAU</p>	<p>KERTAS</p> <p>DIGALAKKAN GUNA PLASTIK SAMPAH WARNA BIRU</p>	<p>LAIN-LAIN SISA ALUMINIUM/PLASTIK/LOGAM</p> <p>DIGALAKKAN GUNA PLASTIK SAMPAH WARNA HIJAU</p>
<p>LAIN-LAIN SISA KACAM/SAHAB</p> <p>DIGALAKKAN GUNA PLASTIK SAMPAH WARNA HIJAU</p>	<p>PLASTIK</p> <p>DIGALAKKAN GUNA PLASTIK SAMPAH WARNA PUTIH</p>	<p>JENIS SISA KITAR SEMULA YANG PERLU DIASINGKAN MENGIKUT KUMPULAN</p>

Separation at source started on 1st September 2015

Source : www.kpkt.gov.my

OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City

STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)

ACTION 5.7.1.5 : **Establish 3R Communities in line with the Ministry's (KPKT) initiative**

Justification: Encourage urban community cooperation and responsibility towards keeping their environment clean through recycling and composting of organic wastes which can also generate income.

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	Local Authorities
SUPPORTING AGENCY	:	SW Corp., NGO, Residents' Association, SMIDEC

Monitoring Indicator (at City Level)	Cities with "3R Community"		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example

Active role in cleanliness

Community needs to help out by separating trash and recycling

Stories by **AMANDA YEAP**
amandayeap@thestar.com.my
Photo by **RONNIE CHIN**

SEPARATE your trash, weigh the recyclable ones and sell them off for some cash.

This is the way to get residents to play an active role in keeping the town clean in the newly-launched Community Recycling Project.

Jointly organised by Ipoh City Watch, Ruabah Tetaaga Jelapang and the Prak Solid Waste Management and Public Cleanliness (SWCorp), the project was aimed at forming a caring society that keeps the environment clean through garbage separation and recycling.

State Community Welfare Committee chairman Datuk Ruabah Kassim said this project was the first of its kind in the state and the country as it involves individuals in the society first.

"We are encouraging them to separate recyclable trash from the non-recyclable ones."

"Under this project, SWCorp has appointed an agent to buy the recyclable trash from residents here with cash."

"Not only does this allow the residents to gain some side income, but at the same time, it inculcates environmental awareness so they can keep the area where they live clean," she said at a press conference after the launch of the project at Dewan Orang Ramai Jelapang recently.

Ruabah added they were dipping their toes into the water with this project by starting first in Kampung Jelapang Tambahan, which has 226 houses, in Ipoh.

"Another thing that sets this project apart is that it will be a continuous effort, instead of a one-off launch."

"Every week, there will be follow-ups done to monitor the cleanliness level of the area and the appointment of a buying agent is simply one of the steps."

"We also hope to extend this project to the whole of Perak one day," she said.

Ruabah also said previous recycling programmes often only targeted schools and non-governmental organisations.

"We need people in the community to take part too."

"On one side, our efforts will work if people aren't coming forward to help make a difference," she said.

Also present during the launch were Ipoh City Watch president Dr Richard Ng and Prak SWCorp director Fatimah Ahmad.

Money for your recyclables: Ruabah (left) weighing a garbage bag containing plastic bottles during the launch of the Community Recycling Project at Dewan Orang Ramai Jelapang.

Establishment of 3R Communities to ensure the success of the programme

Source: http://www.mbsa.gov.my/ms-my/mbsa/penerbitan/Documents/MBSA_Buletin_Okt-Dis'15.pdf

Kutipan Barangan Kitar Semula

PROJEK RINTIS PROGRAM PENGASINGAN SAMPAH DARI RUMAH

Jabatan Pengurusan Sisa Pepejal dan Pembersihan Awam, MBSA telah menjalankan kutipan barangan kitar semula di 5 lokasi yang terlibat di dalam Projek Rintis Program Pengasingan Sampah Dari Rumah. Penduduk telah memberikan komitmen yang membebankan dengan mengasingkan barang-barang yang boleh dikitar semula untuk dikutip oleh kontraktor khas. Data berat barang (kg) direkodkan untuk dianalisa perbandingan berat sampah yang telah dikutip selepas program dilaksanakan. Program ini dijalankan dengan kerjasama penduduk setempat yang telah dipilih di Seksyen 7, 32, U8, U13 dan U16.

Lori kutipan barangan kitar semula jenis jenis 1 kali seminggu (Sabtu) di 5 lokasi yang terlibat dalam Program Pengasingan Sampah Dari Rumah.

Barangan kitar semula yang dikutip perlu ditimbang untuk mendapatkan data berat barangan tersebut.

Barangan kitar semula yang telah dibungkus mengikut warna plastik dikutip, dan akan dikurangkan oleh kontraktor yang telah dilantik oleh MBSA.

Satu set Plastik Sampah Kitar Semula (PLAKSI) yang baru dibentangkan kepada penduduk setiap kali kutipan dibuat bagi mengoptimalkan plastik yang telah dijanamkan.

MAJLIS BANDARAYA SHAH ALAM – JABATAN PENGURUSAN SISA PEPEJAL & PEMBERSIHAN AWAM
Data kutipan kitar semula mengikut jenis di kawasan Projek Rintis Pengasingan Sampah Dari Rumah

No	Kawasan	Bulan/Jenis Bahan										Jumlah (MT)	Sis. Rumah Terlibat			
		OK	P	KCBAL	EW	PT	LL	OK	P	KCBAL	EW			PT	LL	
1	Seksyen 7	68.5	98.9	28.0			37.8	414.8	271.5	77.8	23.8		37.8		5,118.5	398
2	Seksyen 18	64.5	338.8	31.8			41.5	585.5	307.8	72.8	13.8		29.8		2,312.5	818
3	Seksyen 32	374.6	118.2	127			18.8	85.8	471.3	525.8	87.8		27.8		1,934.2	196
4	Seksyen 016	418.0	343.8	257.3	153.0	114.8	158.0	620.8	613.8	357.3	187.2	221.7	188.8		3,849.8	332
5	Seksyen 013	43.2	294.6	17.8	21.8		27.8	110.3	393.7	37.8	26.8		16.3		1,344.7	214
Jumlah:															16,178.9	1,748

Nota: OK kerusi; P plastik; KCBAL kaca & aluminium; EW peralatan terpacak; LL bin-bin

OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City

STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)

ACTION 5.7.1.6 : **Increase the number of collection centres for electronic wastes in commercial, industry, institutional and residential areas**

Justification: Ensure that wastes from electronic and electrical items are collected properly and recycled using new technologies and not disposed of at land fills.

MONITORING AGENCY	: KPKT						
IMPLEMENTING AGENCY	: Local Authorities, Factory Association						
SUPPORTING AGENCY	: SW Corp., JAS						
Monitoring Indicator (at City Level)	Local authorities that provide collection centres for electrical and electronic wastes in every urban centres						
Performance Measurement	<table border="0"> <tr> <td>>80%</td> <td>Very Satisfactory</td> </tr> <tr> <td>50% - 80%</td> <td>Satisfactory</td> </tr> <tr> <td><50%</td> <td>Unsatisfactory</td> </tr> </table>	>80%	Very Satisfactory	50% - 80%	Satisfactory	<50%	Unsatisfactory
>80%	Very Satisfactory						
50% - 80%	Satisfactory						
<50%	Unsatisfactory						
Application by Hierarchy of Centres	<table border="0"> <tr> <td>1 : Global City</td> <td>2 : Regional Centre</td> <td>3 : State Capital</td> </tr> <tr> <td>4 : Main Centre</td> <td>5 : Local Centre</td> <td></td> </tr> </table>	1 : Global City	2 : Regional Centre	3 : State Capital	4 : Main Centre	5 : Local Centre	
1 : Global City	2 : Regional Centre	3 : State Capital					
4 : Main Centre	5 : Local Centre						
Implementation Time Frame	<table border="0"> <tr> <td>Short Term</td> <td>: 2017</td> </tr> <tr> <td>(Monitoring Period</td> <td>: 2018)</td> </tr> </table>	Short Term	: 2017	(Monitoring Period	: 2018)		
Short Term	: 2017						
(Monitoring Period	: 2018)						

Illustration/ Best Practice/ Example



Collection centre for recyclables provided in Cyberjaya

OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City

STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)

ACTION 5.7.1.7 : **Encourage policy on no plastic bags and styrofoam containers in all urban areas**

Justification: To reduce effect of toxic wastes on the environment and increase cleanliness and public health. Plastic bags takes 10 - 20 years to degrade whilst styrofoam containers takes 80 year.

MONITORING AGENCY	:	KPDNKK
IMPLEMENTING AGENCY	:	SUK
SUPPORTING AGENCY	:	SW Corp., JPSPN, User's Association, Local Authorities

Monitoring Indicator (at City Level)	Local Authorities implementing policy on no plastic bags and styrofoam containers in every urban centre		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



Source: <http://www.niknazmi.com/wordpress/?p=1906>



Source: <http://edtv-zahidzakariya.blogspot.my/2016/01/sembang-tiada-lagi-pemberian-beg.html>

OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City

STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)

ACTION 5.7.1.8 : **Give incentives and recognition for traders adopting zero-waste concept**

Justification: Encourage traders to cooperate implementing the 3R programme by reducing impact on the environment. For example, BYOB (Bring Your Own Bottle) shops, Green Concept shops that provide refillable services such as detergents into old containers.

MONITORING AGENCY	:	KPKT
IMPLEMENTING AGENCY	:	Local Authorities
SUPPORTING AGENCY	:	KeTTHA, NGO, User's Association, Business Association

Monitoring Indicator (at City Level)	Number of traders practicing zero concept waste		
Performance Measurement	>5%	Very Satisfactory	
	3% - 5%	Satisfactory	
	<3%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example

New life for used plastic bottles

By **THO XIN YI**
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A SIMPLE idea to go green has morphed into a unique detergent store that spreads environmental awareness.

BYOB (which stands for Bring Your Own Bottle) operates from a shoplot in Bandar Mahkota Cheras, Kajang, and blue drums and white containers can be seen arranged behind the counter at the store.

The drums contain about 20 types of cleaning agents such as laundry detergent, shower gel, toilet disinfectant and dishwashing liquid.

Customers walk in with clean empty bottles, make a request and the staff will refill their bottles with the detergent they want.

There is also a television on the counter, constantly showing videos about pollution caused by plastics.

Wilson Lai, who has been in the detergent manufacturing business for 15 years, opened the outlet in September 2011.

He said he had remembered an article he chanced upon that described the sea as a big bowl of plastic soup.

"When the plastics are exposed to UV light, they release toxins into the water. We are poisoning ourselves without knowing it.

"Plastics do not decay even if we dispose of them in landfills," he said.

He also notes that people do not know what to do with empty plastic bottles and that plastic loses its strength every time it is recycled.

"The authorities tell us to recycle, but there are no clear guidelines.

"Plastic is also downgraded after the process, which seems to defeat the purpose of recycling," he said.

Lai then roped in his employees at the detergent manufacturing factory to start BYOB together.

Every one is a shareholder and they do not draw salaries for taking care of the outlet.

"It's not a profit-making business. Our biggest aim is to spread awareness," Lai explained.

The detergents available at BYOB are produced in Lai's factory.

"We import the chemicals and make our own detergents. We make sure that the chemicals are biodegradable and our formulae are environmentally-friendly," Lai said.

The prices of the detergents at BYOB are also cheaper than those available on the market.

"People do not realise that they have to pay for the plastic bottles when they purchase detergents off the shelf.

"We take away the cost of the bottles and even the advertising costs so customers are paying only the basic price," Lai said.

BYOB relied on social networks and word of mouth to reach out to the public and it has garnered the support of like-minded customers coming from as far as Sungai Buloh and Klang.

"We want the people to know that plastic bottles are not trash and they should treat plastic bottles with respect," Lai said.



Green idea: Customers wait patiently as BYOB employees fill their bottles with detergents.

The latest product offered at BYOB is a one-drop fragrance available in 3mil bottles.

Lai is also looking at customised products, such as hand soap, where customers can choose their favourite colours and fragrance.

BYOB is located at No. 2-G, Jalan

Panglima, Bandar Mahkota Cheras Kajang.

It is open from noon to 2pm and 5pm to 8pm on weekdays, and 11am to 8pm on weekends.

For details, call 012-979 8311 or visit <https://www.facebook.com/BYOB.Malaysia>.

Source: <https://www.facebook.com/BYOB.Malaysia/photos/a.449282921788299.98328.238780856171841/449282958454962/?type=3&theater>

OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City

STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)

ACTION 5.7.1.9 : **Encourage private sector participation in mechanical composting and bio-fuel generation from food waste and cooking oil, on a commercial scale**

Justification: Used cooking oil can be made into bio-fuels and food wastes can be turn into compost for public parks.

MONITORING AGENCY	:	KeTTHA
IMPLEMENTING AGENCY	:	PPSPPA
SUPPORTING AGENCY	:	SW Corp., MIDA, JAS, JPSPN, Private Companies, Local Authorities
Monitoring Indicator (at City Level)	Number of private companies producing compost and bio-fuels in every urban area	
Performance Measurement	>5% Very Satisfactory 3% - 5% Satisfactory <3% Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 2 : Regional Centre 3 : State Capital 4 : Main Centre 5 : Local Centre	
Implementation Time Frame	Medium Term : 2017 - 2020 (Monitoring Period : 2021)	

Illustration/ Best Practice/ Example



The composting system used in recycling of food wastes into fertilizer

Source: <http://www.astroawani.com/berita-malaysia/penghasilan-baja-kompos-daripada-sisa-makanan-di-rumah->

OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City

STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)

ACTION 5.7.1.10 : **Impose conditions on commercial food outlets such as restaurants, hotels, cafes, etc. in pilot project areas to separate food waste and used cooking oil**

Justification: To reduce food wastes into landfills. Organic wastes can be converted into fertilizers for parks and used cooking oil can be made into bio-fuels.

MONITORING AGENCY	: JPBD SM
IMPLEMENTING AGENCY	: Local Authorities
SUPPORTING AGENCY	: KeTTHA, SW Corp., JAS, IPTA, IPTS, Private Companies

Monitoring Indicator (at City Level)	Number of food outlets participating in the pilot project		
Performance Measurement	>80%	Very Satisfactory	
	50% - 80%	Satisfactory	
	<50%	Unsatisfactory	
Application by Hierarchy of Centres	1 : Global City 4 : Main Centre	2 : Regional Centre 5 : Local Centre	3 : State Capital
Implementation Time Frame	Medium Term (Monitoring Period	: 2017 - 2020 : 2021)	

Illustration/ Best Practice/ Example



France has enforced a law requiring bars and supermarkets to not dispose of food items that can still be consumed. Lawmakers have unanimously agreed that all supermarkets to reduce food wastes by donating these to local organizations, convert the foods for animal feed or use them for fertilizers.

- OBJECTIVE 5.7 : Effective Solid Waste Management To Ensure Clean City
- STRATEGY 5.7.1 : Increase in 3R (Reduce, Reuse, Recycle)
- ACTION 5.7.1.11 : **Increase awareness of owners, managers and employees of commercial food outlets on proper handling of food wastes through workshops and training**

Justification: Increase awareness and get cooperation to collect organic food wastes in large quantities for the economic conversion into fertilizers.

MONITORING AGENCY	:	KeTTHA
IMPLEMENTING AGENCY	:	PPSPPA
SUPPORTING AGENCY	:	JPSPN, Local Authorities, SW Corp., JAS, NGO, Owner Association Eatery, Private Companies
Monitoring Indicator (at City Level)	Number of workshops for organic waste handling per annum	
Performance Measurement	>6 Very Satisfactory 2 - 5 Satisfactory <2 Unsatisfactory	
Application by Hierarchy of Centres	2 : Regional Centre	
Implementation Time Frame	Medium Term	: 2017 - 2020
	(Monitoring Period	: 2021)

Illustration/ Best Practice/ Example



Workshops improve service quality, solid waste management and public cleansing recommendations SW Corp.

Source: http://www.swcorp.gov.my/galeri/index.php?option=com_phocagallery&view=category&id=334:bengkel-meningkatkan-kualiti-perkhidmatan-pengurusan-sisa-pepejal-dan-pembersihan-awam&Itemid=123

