NGTP Strategic Thrust 02 CONDUCIVE ENVIRONMENT

The Government promotes the adoption of green technology through various platforms, from the provision of financial incentives to ensuring green products and services are prioritised in procurement decisions. It is also creating greater visibility and access to the green choices available, and bringing together green innovators with decision makers in the private and public sectors. MGTC plays a critical role in the green ecosystem by developing and implementing various strategic programmes to meet the specific needs of the industry.

GREEN INCENTIVES

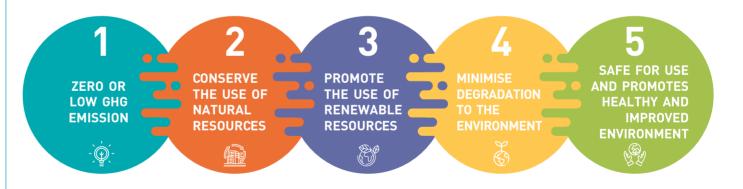
Three key incentive programmes are offered to encourage greater adoption of green technology hence develop the industry:

- Green Technology Financing Scheme (GTFS)
- Green Technology Tax Incentives
- Energy Audit Conditional Grant (EACG)

Green Technology Financing Scheme (GTFS)

GTFS is a low-cost financing scheme to facilitate the financing of green technology projects, providing easier access to private funds. The scheme, which targets both producers and users of green technology, offers a government guarantee of 60% of the financed amount and a 2% per annum rebate on the interest/profit rate charged by financial institutions.

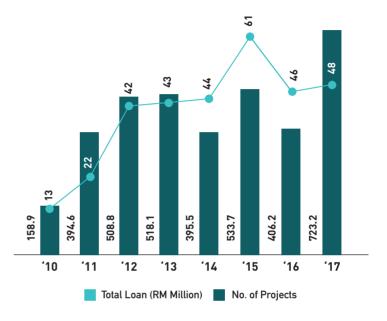
In order to qualify for GTFS, organisations need to demonstrate that their green investments satisfy five criteria:



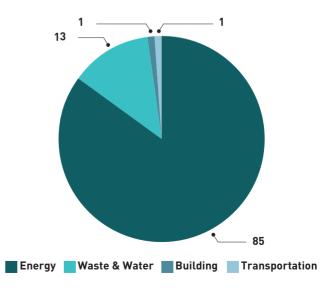
Financing Offer from Participating Institutions 2010-2017



Progress



Project Funding from 2010-2017, by Sector



MALAYSIAN GREEN TECHNOLOGY & CLIMATE CHANGE CENTRE ANNUAL REPORT 2019

2019 Highlights



Green Technology Tax Incentives

In 2014, Government have introduced the Green Technology Tax Incentive in 2014 with the objective to strengthen the development of green technology in Malaysia.

There are three groups of activities as follows:



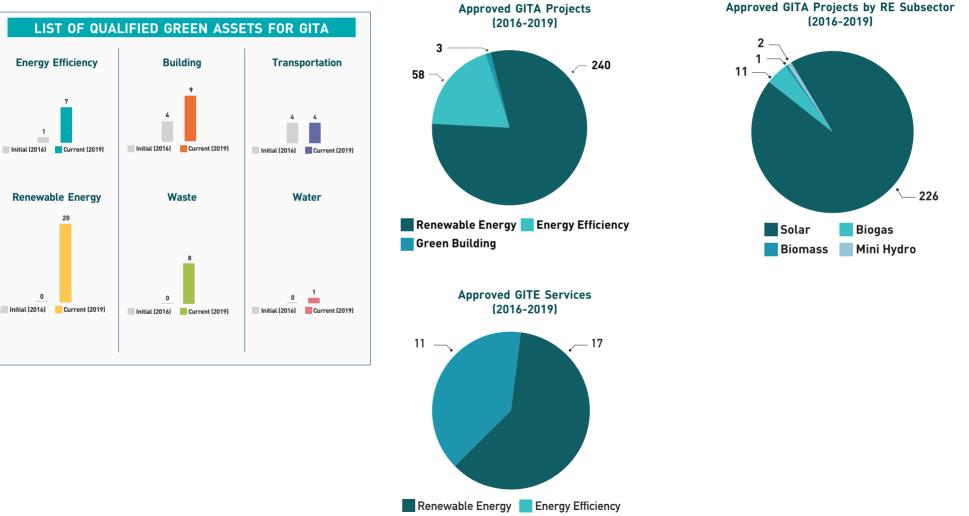
Progress

0

Initial (2016)

Under Budget 2019, the Government expanded the list of green assets that gualify for GITA from nine to 49, a large number of which fall under the renewable energy (RE) category. RE, waste and water were new sector added to the incentive which previously focused only on energy efficiency, building and transportation.

From 2016-2019, a total of **301 projects** were approved. Which most of the applications were in the Energy Category with total numbers of 298 projects. Meanwhile, 28 applications were approved under GITE services to claim for tax exemption and 8 applications were approved under GITA asset. Details are as indicated in the chart below:

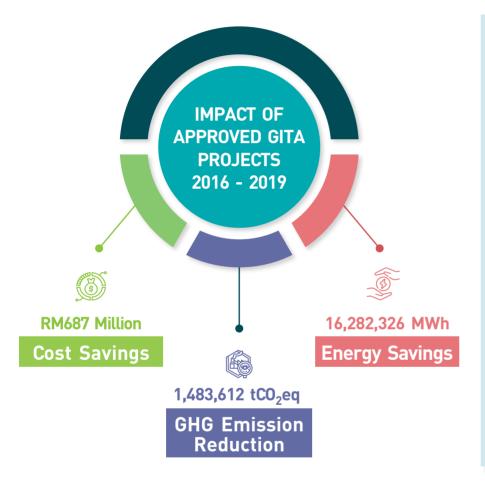


Green Building

Achievements

38

Achievements GITA Projects



2019 Highlights and What's Next

In 2019, there was a marked increase in number of GITA and GITE, with the total number more than doubling year on year from **77 as at end 2018** to **231 at end 2019**.

In 2020, GITA and GITE have been extended up to the year 2023. Among others, this will provide a boost to the country's ambition of renewable energy making up 20% of the fuel mix by 2025. In addition, 70% income tax exemption of up to 10 years will be given to companies undertaking solar leasing activities under the purview of SEDA Malaysia.

No. of Approved GITA & GITE Compared at Year End



Energy Audit Conditional Grant (EACG)

The industrial sector consumes a large amount of energy. In 2016, it was the second largest energy consumer in Malaysia, accounting for 28% of the country's total consumption. The potential to reduce consumption in this sector is, therefore, also high. Through energy audits conducted by appointed energy service companies (ESCOs), organisations gain clarity on how and where energy is being used, enabling them to better manage and reduce their consumption.

MGTC was appointed to promote the EACG, process the applications and, subsequently, monitor the relevant projects. The organisation's role can be summarised as:



Progress



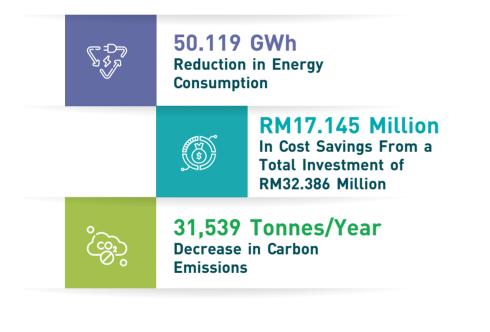
was launched by the Ministry of Energy, Green Technology and Water (KeTTHA) under the Eleventh Malaysia Plan (2016-2020) Grants were awarded from May 2016 to May 2018 to large and medium-sized industries that consume at least 100,000 kWh/month

for six consecutive months

Achievements

As of 2018, 108 companies had received the EACG and completed their on-premise energy audits. Monitoring and verification by MGTC began in January 2018 for 90 companies receiving the grant 2017, while monitoring and verification for another 18 companies receiving the grant in 2018 began in July 2018. The 3-year monitoring and verification will end in year 2021.

As of December 2018, the project has led to:



2019 Highlights

In 2019, the monitoring and verification activity covered the reporting cycle of January to June 2019 and July to December 2019, involving 108 companies.

The January-June 2019 cycle resulted in

- >> 22.031 GWh reduction in energy consumption
- >> RM8.478 million in cost savings from total investment of RM14.718 million
- >> 15,278.03 tonnes/year decrease in carbon emissions

The July-December 2019 cycle resulted in

- >> 27.155 GWh reduction in energy consumption
- >> RM11.198 million in cost savings from total investment of RM9.878 million
- >> 18,843.33 tonnes/year decrease uin carbon emissions

EACG achievement in 2019



34,121.36 ION Decrease in Carbon Emissions

What's Next >> _

Based on good response and feedback received from the industrial sector, MGTC has proposed an expansion of the EACG programme under the 12th Malaysia Plan.



MGTC focuses on three levels of certification for specific objectives, namely certifications at the city, organisation and product/ service levels.

- MyHIJAU Mark
- Energy Management Gold Standard (EMGS)
- Low Carbon Cities
 Framework (LCCF)
 Diamond Certification



Provides A Simple And Clear Way For Consumers To Distinguish Genuine Green Products And Services Through The Usage Of A Single, Trusted Logo.



Online Platform For Businesses To Promote Their Green Products And Services To New Markets.

Serves As A Comprehensive



Inspires More Companies To Attain Proper Environmental Certification In Order To Reap The Benefits Of Carrying The MyHIJAU Mark And Being Listed On The MyHIJAU Directory.



MyHIJAU

Mark & Directory

MyHIJAU Mark & Directory is a government initiative to promote the sourcing and purchasing of green products and services in Malaysia. It provides a single recognisable mark that consolidates all certified products and services that meet local and international environmental standards. The programme also includes an online directory which allows easy access to the public.

MGTC's role is to promote the MyHIJAU Mark recognition and directory, as well as provide business advisory, verification and monitoring of certified green products and services. The organisation register products and services that have already been certified by accredited certification bodies; as well as conducts our own verification for such products and services.

Progress



MyHIJAU Mark was introduced by the Government.



The recognition and directory were launched.



Government announced tax incentives for the use of green products and targeted more than 1,000 products and services to be registered under the scheme. To capture eco-friendly agricultural products and green spaces, MGTC included the Malaysia Sustainable Palm Oil Certification Scheme and Green Building Certification into the programme.



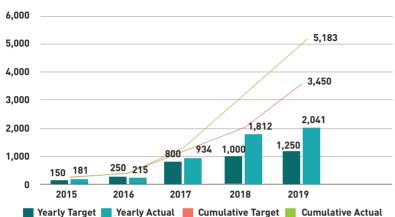
2018

More than 200 products and services registered under the MyHIJAU Mark, and a target was set for at least 20% of all Government purchases being green by 2020.

MyHIJAU app was launched enabling consumers to download the Directory from Play Stores and App Stores.

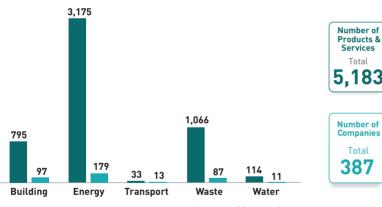
Achievements

From 2015-2019, a total of 5,183 products and services were registered under the scheme.



MyHIJAU Mark Registration Until 31st December 2019

Number of Green Products and Services Registered under MyHIJAU Mark by sector, 2015-2019



Number of Product and Services Number of Companies



2019 Highlights

In 2019, MGTC **approved 396 MyHIJAU Mark** applications, **exceeding the target of 350**. In efforts to promote the programme and the companies registered, MGTC set up a MyHIJAU Pavilion at the 10th IGEM. The pavilion showcased developments under the MyHIJAU Mark Recognition Scheme including the website and mobile apps, as well as the certification and verification partners.



MyHIJAU Registered Certification & Varification Partners



What's Next >> -

Moving forward, MGTC will continue to organise workshops to explain the MyHIJAU Mark verification process and benefits of the registration and directory. At the same time, the organisation seek to expand its database of verification bodies to facilitate the process of certification.

Energy Management Gold Standard (EMGS)

EMGS is an organisation-level certification delivered under the ASEAN Energy Management Scheme (AEMAS) based on excellence in energy management. Owned by the ASEAN Centre for Energy (ACE) and supported by the European Commission as well as the United Nations Environment Programme (UNEP), EMGS provides companies with a Sustainable Energy Management System (SEMS) where cost savings are not only achieved but maintained and improved. Under the programme, companies also receive comprehensive training for their energy managers to help ensure their energy efficiency goals are achieved.

AEMAS was officially launched in 2011, and to date has been adopted by eight ASEAN member countries. MGTC was appointed by ACE as the certification body for EMGS in Malaysia. Its role includes appointing assessors, assessing companies' documentation, conducting site assessments and presenting the assessments to the relevant approval committees at the national and Asean levels.

There are three rating grades:



Progress

On 1 October 2014, Universiti Teknologi Malaysia (UTM) became the first organisation in Malaysia to be awarded the EMGS 3-Star rating. Meanwhile, MGTC has been collaborating with the Ministry of Health to implement EMGS in all government hospitals as the average hospital uses 2.5 times the amount of energy than other commercial buildings.



2019 Highlights

As of end 2019, **203 EMGS certifications** had been issued by ACE for Malaysia. Within the year 2019 itself, **76 organisations** were certified.





IJN 1st in Malaysian Health Sector Awarded EMGS

Rating



What's Next >> _____



MGTC will continue to assist **1-Star** and **2-Star** organisations to attain the **3-Star** standard. At the same time, it aim to expand its focus to include private hospitals and the education sector, specifically universities and polytechnics.

Low-Carbon Cities Framework (LCCF) Diamond Certification

Cities account for about 70% of GHG emissions globally. To help local authorities support holistic sustainable development in Malaysia and achieve the Government's emissions target by 2030, the LCCF was developed. It provides the necessary tools – including city design guidelines, measurement and reporting methodology as well as an assessment and recognition programme – to implement low-carbon strategies in a systematic and impactful manner. The framework, encompassing the Urban Environment, Urban Transportation, Urban Infrastructure and Building, is to be supported by a Low Carbon Cities Master Plan (LCCMP) which is currently being drafted.

Three key objectives of the LCCF:



Application of the framework is a continuous process undertaken in three phases:



Upon completion of Phase 3, the initiatives undertaken are reviewed to measure the CO_2 reduction achieved. An Assessment and Recognition system is used to evaluate the local councils' efforts, based on the CO_2 reduction achieved in designated zones.

Assessment & Recognition



Recognition

Provisional Certificate

Develop baseline and pledge commitment to reduce emissions

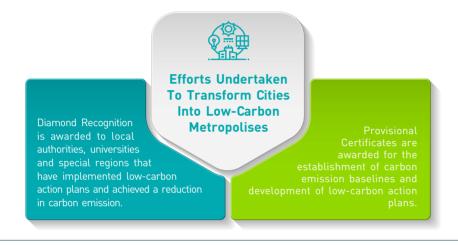
Diamond Recognition

Achieve emissions reduction based on the scale below



Progress

In recognition of efforts undertaken to transform cities into low-carbon metropolises, MGTC together with the Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC) organises the annual Low Carbon Cities Awards.



2019 Highlights



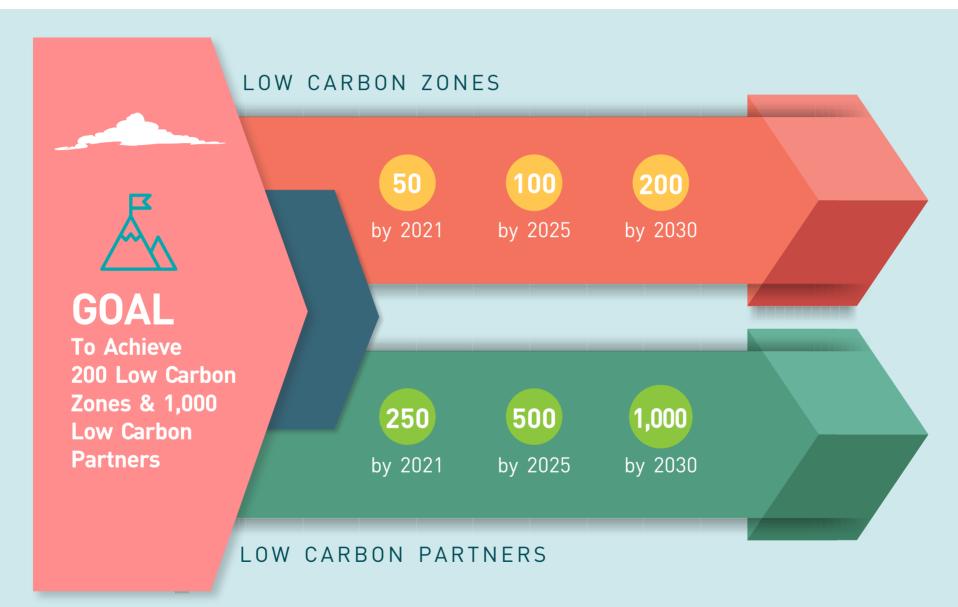
The **Low Carbon Cities 2030 Challenge (LCC2030C)** was launched by the Minister of Energy, Science, Technology, Environment & Climate Change (MESTECC) which sets the target of attaining 200 Low Carbon Zones and 1,000 Low Carbon Partners by 2030.



The **10 Low Carbon Zones** that received the Diamond Recognition can be referred to appendixes on page 141.

Collectively, these low carbon zones have reduced a total of $47,705.78 \text{ tCO}_2 \text{e}$ across 4 elements (energy, water, waste and mobility).

LOW CARBON CITIES 2030 CHALLENGE





ENERGY Maximise building energy efficiency and increase adoption of renewable energy.



REDUCE

EMISSIONS

& INCREASE SEQUESTRATION WATER Maximise water efficiency and increase adoption of rainwater harvesting.



MOBILITY

Increase use of public transport, cycling, walking and other low carbon modes.



WASTE Reduce the amount of waste that goes into the landfils.



GREENERY Maintain or increase the number of trees and green spaces in the city.





What's Next >> ____

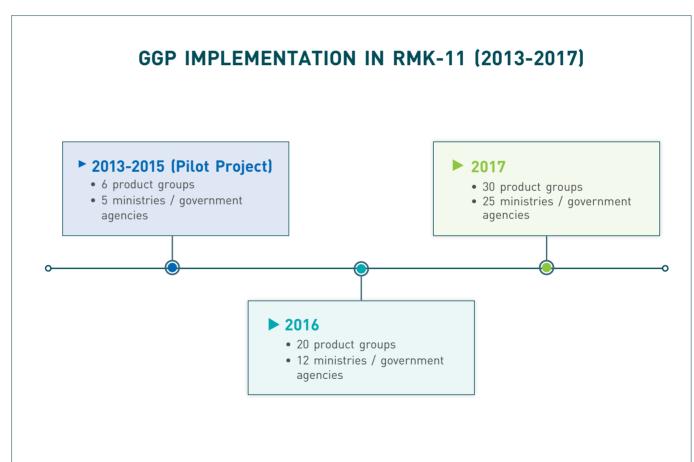
In 2020, the aim is to enroll 20 new local authorities into the programme while increasing the number of Diamond-recognised Low-Carbon Zones to 25 and Low-Carbon Partners with Diamond Recognition to 50. A total of 19 mayors and President (Yang Di-Pertua) of various munipalities have pledged to support the Low Carbon Cities 2030 Challenge.



Government Green Procurement (GGP)

Government procurement plays an important role as a catalyst for socio-economic development, representing about 12%-15% of Gross Domestic Product (GDP). Through procurement, the Government has the potential to promote innovation in green technology hence drive green growth and a green economy. This inspired the launch of Government Green Procurement (GGP) in 2013.

Progress



2019 Highlights

In **2019, 10 new product groups** were **endorsed** such that the GGP Guidelines now cover a total of 30 product groups.



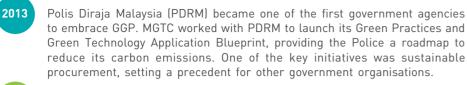
What's Next >> ____

The target for 2020 is for another 10 product groups to be assessed and added to the existing list. Meanwhile, the GGP programme will be rolled out in more government agencies, state governments and local authorities. This will be supported by programmes such as MyReLamp Project which aims to promote the procurement of energy efficient lighting among local authorities.

Programmes are also being conceptualised to promote green procurement within the private sector under the 12th Malaysia Plan.



Government Announced The Target of 20% GGP by Year 2020

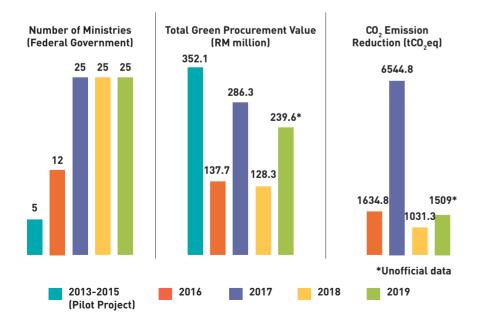


- 2015 Under the guidance of MGTC, the MOF, Ministry of Energy, Green Technology and Water (KeTTHA) and Economic Planning Unit (EPU) implemented various strategies to spearhead GGP in tandem with the Government's 11th Malaysia Plan aspiration of 20% green government procurement by 2020.
- All 25 ministries in Malaysia had embarked on the GGP programme with green products and services totalling 5.4% of the Government's overall procurement. This translated into the avoidance of 6,545kg of tCO₂eq emissions.
 - GGP Guidelines 2.0 were published, covering 20 GGP criteria for products and services such as ICT equipment, air-conditioning systems and cleaning services. Refer to page 142 for full list of GGP Product Groups.

Achievements

2018

As at end 2019, the cumulative GGP value achieved was RM1.144 billion.





MGTC plays a central role in enhancing the growth of green technology in Malaysia by balancing the supply and demand sides of the equation through the creation of an effective green marketplace.

- Annual IGEM
- Global Platforms

Annual International Greentech & Eco Products Exhibition & Conference Malaysia (IGEM)

IGEM has established itself as South East Asia's largest trade event for green technologies and eco solutions. It is widely recognised as the platform for solutions providers and green energy businesses to tap into the fast-expanding region by showcasing the latest innovations to policy makers, government organisations, investors and the mass markets. It also serves as a "marketplace" for industry players to explore business opportunities, generating potential investment for Malaysia.

One of the Government's flagship green technology events, IGEM has been held since 2010 to enhance the development and potential of green technology-based businesses as well as create awareness among the public of the importance of green technology and green living.

Progress & Achievements _

Between 2010 and 2018, IGEM attracted more than 400,000 visitors and exhibitors from more than 50 countries. It also recorded more than RM23 billion in actual and potential business transactions.

2010 to 2019				
IGEM 2010 A Green New Deal No. of Exhibitors: 277 Total No. of Visitors: 86,372 Business Leads: RM1.2 Billion	IGEM 2011 A Green New Deal: The Next Frontier No. of Exhibitors: 353 Total No. of Visitors: 68,105 Business Leads: RM1.3 Billion	IGEM 2012 Greentech for Growth No. of Exhibitors: 366 Total No. of Visitors: 65,210 Business Leads: RM1.3 Billion	IGEM 2013 Advancing Green Growth and Global Entrepreneurship No. of Exhibitors: 261 Total No. of Visitors: 56,552 Business Leads: RM0.4 Billion	IGEM 2014 Creating Green Wealth No. of Exhibitors: 357 Total No. of Visitors 49,813 Business Leads: RM1.9 Billion
IGEM 2015 Powering the Green Economy No. of Exhibitors: 350 Total No. of Visitors: 23,932 Business Leads: RM1.98 Billion	IGEM 2016 Green Business for Sustainability No. of Exhibitors: 350 Total No. of Visitors: 33,903 Business Leads: RM2.046 Billion	IGEM 2017 Powering Green Cities No. of Exhibitors: 378 Total No. of Visitors: 34,868 Business Leads: RM9.19 Billion	IGEM 2018 Green Economy & Industry 4.0: Achieving Sustainable Development Goals No. of Exhibition Booth: 280 Total No. of Visitors: 39,803 Business Leads: RM4.155 Billion	IGEM 2019 Innovating Sustainability No. of Exhibition Boo 376 Total No. of Visitors: 40,531 Business Leads: RM5.985 Billion

2019 Highlights



In 2019, the **10th edition of IGEM**, held at the Kuala Lumpur International Convention Centre (KLCC), attracted 230 exhibitors who set up 376 exhibition booths which were **visited by over 40,531 trade and public visitors** from **43 countries**. The event garnered a total of RM5.985 billion in business leads. Through the event, **26 MoUs** were **signed** between organisations from the government and private sectors, including SMEs, while seven products were launched. Refer to page 142 for full list of MoU/MoA forged during IGEM 2019.

Investor & Buyer Engagement Over 500 Business Matching Meetings



Collaboration

IGEM is a platform to provide visibility of the different organisations involved in evolving green technology, from innovators to facilitators, producers and investors. Through the event, various partnerships are formed. During IGEM 2019, 26 MoUs were forged between various organisations.



Product Launches

IGEM is also the ideal platform at which government and private sector organisations are able to garner high visibility of new programmes, products and services in the field of green technology. During IGEM 2019, seven products were launched.

Product Launches at IGEM 2019



Launching Peer-to-Peer Energy Trading (P2P) by SEDA



Launch of PETRONAS Solar Rooftop Solutions



Launch of Green Pit Stop IOT Garden by Ny Design (M) Sdn Bhd (Incubatee of Technology Park Malaysia)



Launch of TNBES-MGTC EV Infrastructure **Expansion Project**



MCY Product Launch: >> TRUCE - SARINGAN PANTAS BGS (BIOANALYTICAL QUEST SDN BHD - INCUBATEE TPM)
 >> HALEA NATURAL SKIN CARE (UTM)
 >> MNR G-TREAT (MNR MULTITECH SDN BHD - INCUBATEE TPM)
 >> ELECTRONIC NOSE TECHNOLOGY (E-ANFUN) (SYNBION SDN BHD - INCUBATEE TPM)

Other Product Launches at **IGEM 2019**

Launch of Green Tariff Rider by TNB

Launch of Malaysia Green Attribute Tracking System (MGATS) by TNB

250 exhibitors

RM1.6b business leads

17 countries 10k visitors

What's Next >> ____

MGTC is currently co-organising the 11th edition of IGEM, which is expected to be held on 5-9 October 2020. Themed "Energising Sustainability", this year's event anchors on innovation to ensure environmental stability along with economic prosperity. The aim is to attract RM1.6 billion business leads, 250 exhibitors, 17 countries and 10,000 visitors.

Participation at Global Platforms

MGTC also plays a significant role in promoting local green products and services abroad, creating a presence for local companies in the global green marketplace. A key event to date has been the international specialised expo, EXPO 2017, in Astana, Kazakhstan. Currently, MGTC is coordinating Malaysia's participation at the upcoming World Expo, EXPO 2020 Dubai. Both expos fall under the auspices of the Bureau International des Exposition.

Astana EXPO 2017 - Future Energy

MGTC was appointed by the Government as the implementing agency tasked to develop and coordinate Malaysia's programmes and activities at EXPO 2017 Astana. EXPO 2017, themed "Future Energy", provided an unprecedented opportunity for Malaysia to develop stronger trade and business ties in the field of green energy, products and services with the Republic of Kazakhstan as well as the other 114 participating countries.

The 727m² Malaysia Pavilion, classified under the Medium Pavilion category alongside countries such as Germany, China and South Korea, was themed "Powering Green Growth". It showcased our country's journey towards a sustainable and green future, providing visitors an immersive experience beginning with a rainforest experience followed by Malaysia's transformation agenda to its vision to become a developed, low-carbon, high-income nation. The pavilion journey ended with a cultural experience and colourful showcase towards Malaysia's traditions, heritage and arts.

A total of 118 Malaysian companies, aside from several government ministries and agencies, participated in Malaysia Pavilion's programmes, with 3,770 Malaysian and international participants attending its business and social events.

Malaysia Pavilion was one of the top 10 most visited pavilions attracting 682,591 visitors, including prime ministers, ministers, deputy ministers and ambassadors from various countries, in addition to members of the public. It won the Marketing Excellence Award's Gold Award for Excellence in Government Sector Marketing for its EXPO 2017 Astana brand campaign; and an Honourable Mention by Exhibitor Magazine's Expo 2017 Astana Awards for Best Interpretation of Theme.

In terms of trade and investment outcomes, Malaysia Pavilion generated RM12.67 billion in business leads including the signing of 14 MoUs between various parties.

Summary of Deliverables and Achivements | Outcomes of Malaysia Pavilion



2019 Highlights

EXPO 2020 Dubai



In 2019, MGTC was given the role as implementing agency for Malaysia's participation at the upcoming EXPO 2020 to be held in Dubai from October 2021 to March 2022.

EXPO 2020 Dubai is themed "Connecting Minds, Creating the Future" with three sub-themes of "Opportunity", "Mobility" and "Sustainability". Malaysia has chosen "Energising Sustainability" as the theme for its Net Zero Carbon Pavilion. This aptly displays our commitment to sustainability as we aim to ensure our participation at EXPO 2020 Dubai does not leave any carbon footprint. The Pavilion features a Rainforest Canopy inspired by the majestic rainforest in Malaysia, which also symbolises the nation's forest

conservation efforts. The Pavilion is segmented into four dedicated zones themed "Energising Today", "Energising Tomorrow", "Energising Harmony" and "Energising Business".

At EXPO 2020 Dubai, Malaysia will be positioned as a dynamic and progressive nation driven by science, technology and innovation; and an ideal place to invest in, do business with, study in and visit. A total of 192 countries are participating in EXPO 2020 Dubai, dubbed the "World's Greatest Show". Malaysia will leverage the event to further strengthen its global relationships while enhancing trade ties with the UAE and other participating countries.

Some 22 ministries and several agencies will lead a delegation of over 200 companies encompassing 10 industries across six clusters, to participate in 25 weekly thematic business programmes throughout EXPO 2020 Dubai.



Malaysia will also create and promote dialogue and discussions on sustainability issues through conferences, forums and pocket talks.





Organisation

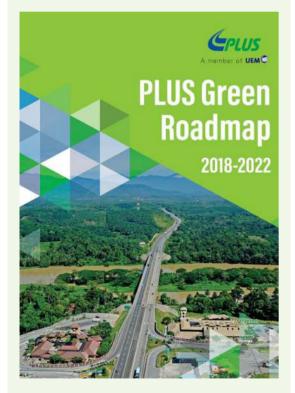
MGTC's Green Advisory programme has been set up to help organisations pursue effective green strategies. PLUS and Johor Port Authority were among the early beneficiaries of the two-to-three-year programme.



At PLUS, a green roadmap was established which saw the implementation of a solar PV pilot project in 2018. Currently, the organisation is undergoing a five-year programme up to 2023 to install solar PV infrastructure.

ORGANISATION PURSUING GREEN STRATEGY Case Study: PLUS Malaysia Berhad

2017 PLUS Green Roadmap



PLUS RoadmapGHG Baseline

2018 Solar PV Pilot Project



Solar PV Panels at Persada PLUS

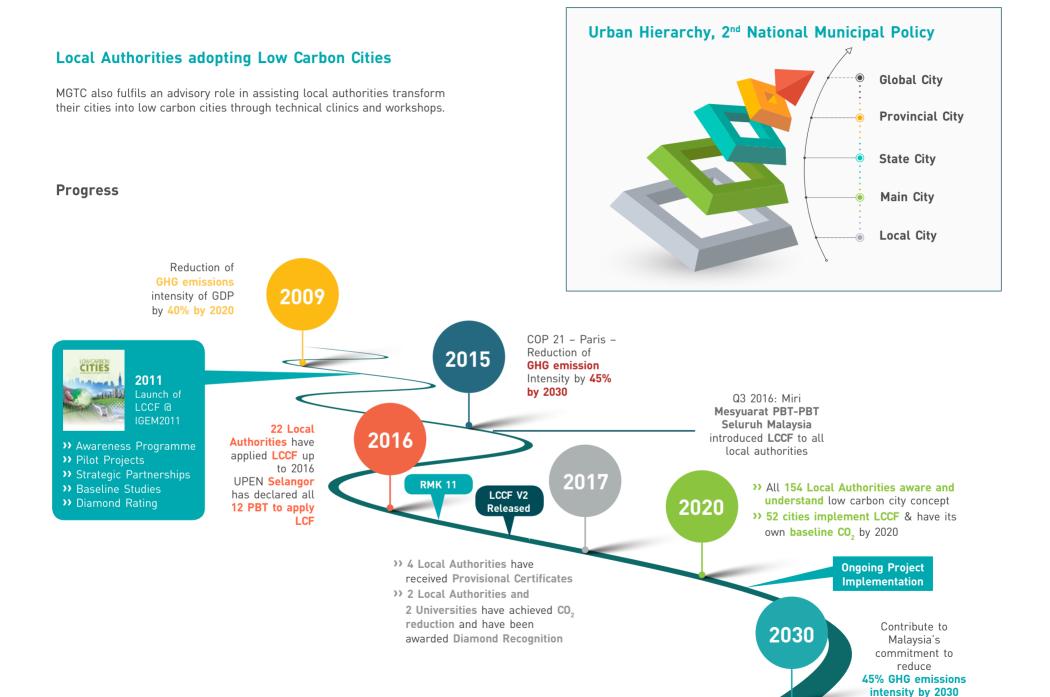


The Solar PV Panels at PLUS RSA Machap, Northbound

2019 Highlights



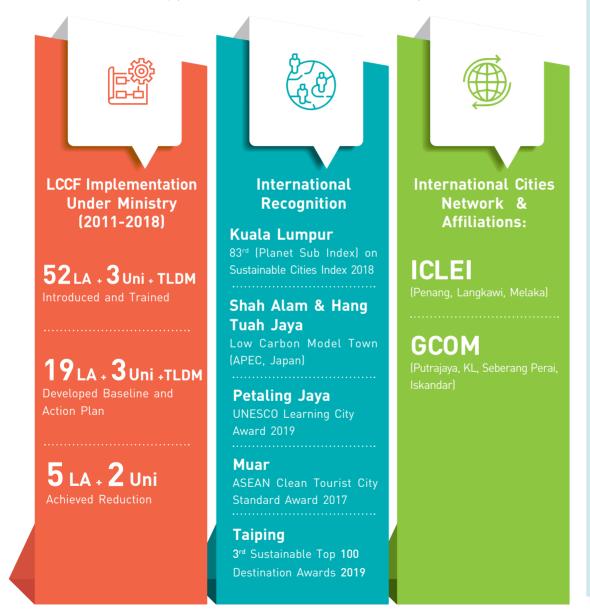
In 2019, MGTC received a number of enquiries, especially from local financial institutions, on the pursuit of green strategies. This was mainly driven by Bank Negara Malaysia through its Value-Based Intermediation Financing and Investment Impact Assessment Framework. At IGEM 2019, for example, MGTC signed an MOU to assist AmBank Islamic Berhad to develop green financial packages.



59

Achievements

Based on the technical advisory provided to the Local Authorities since 2001, up till 2018:



2019 Highlights

MGTC organised 12 LCCF workshops, clinics and focus group discussions throughout 2019 to advise and guide the local authorities in developing their respective LCC action plans.



In October 2019, MGTC also organised a Low Carbon Cities 2030 Challenge: City-Biz Alliance Session #1 – Energy event. At this session, solutions providers related to energy efficiency and sustainable energy were invited to share their products and services. Among the solutions providers were several MyHIJAU companies.

This session was aimed at linking local authorities with solution providers to enhance on the ground solutions of Low Carbon Cities.







What's Next >> __

The way forward is to further enhance low carbon cities programmes by launching the National Low Carbon Cities Masterplan & Policy Roadmap that is scheduled for approval in 2020. The Masterplan outlines various action items and recommendations to be taken at the National, State and Local Government levels.