



ENERGISING SUSTAINABILITY

ANNUAL REPORT 2020





SUPPORTING ENTREPRENEURSHIP IN GREEN INNOVATION

Green Technology
Financing Scheme 2.0

112
PROJECTS
APPROVED

Green Technology
Tax Incentives

243
APPLICATIONS
APPROVED

MyHIJAU Mark Registered List

7,498
GREEN PRODUCTS
AND SERVICES

470
PARTICIPATING
COMPANIES



CHAMPIONING GREEN GROWTH FOR ECONOMIC SUSTAINABILITY

Government
Green Procurement
Programme Adopted by

27
ALL
FEDERAL MINISTRIES

IGEM Generated

RM33
BILLION
BUSINESS LEADS
CUMULATIVELY
SINCE 2010

962

GREEN JOBS CREATED
from GITA, GITE and GTFS 2.0 in 2020





LEADING CLIMATE ACTION THROUGH LOW CARBON STRATEGIES

Low Carbon Cities 2030 Challenge Enrollment

24

LOW CARBON ZONES

45

LOW CARBON PARTNERS

Low Carbon Mobility Blueprint 2021-2030

COMPLETED IN

FY2020

Energy Management Gold Standard (EMGS) Certification

251

ORGANISATIONS



STRENGTHENING COMMUNITIES THROUGH AWARENESS & EDUCATION

LCCF Training & Capacity Development Programmes

64
PBTs
TRAINED

IGEM 2020 Held

55
CONFERENCE
SESSIONS

161
EXHIBITORS

Webinars and Talk Shows Produced in 2020

9
WEBINARS
ORGANISED AND
10
'GREEN TALK'
EPISODES
PRODUCED

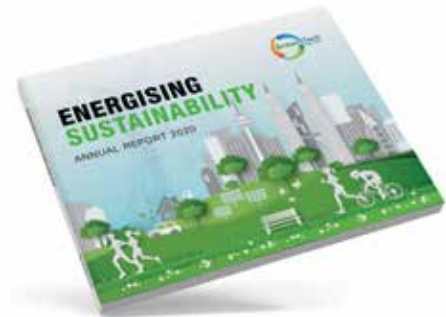
OVER
21,990
VIEWERS AND
OVER
1,600
PARTICIPANTS





COVER RATIONALE

ENERGISING SUSTAINABILITY



Green eco-city ecology, smart city living and eco-friendly city concept, urban landscape and infrastructure with low carbon footprint is depicted in this design.

Energising Tomorrow, Energising Harmony, Energising Business, Energising Social reflect MGTC's mandate to develop green technology and climate change leadership in various sectors and develop innovative, forward-thinking approaches in "Energising Sustainability".



23rd ANNUAL GENERAL MEETING

VENUE

Held Virtually via Zoom Meeting

DATE

Thursday
24 June 2021

TIME

11.00 a.m.

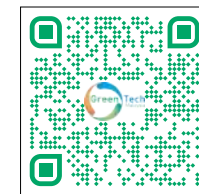
FEEDBACK

This report is available to all stakeholders and can be downloaded from our corporate website at <https://www.mgtc.gov.my/>. MGTC welcomes comments from our stakeholders. For further enquiries or feedback, please contact:

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Fax +603 8921 0801 / 0802
Email comms@mgtc.gov.my
WhatsApp +6019 308 8286

CORPORATE COMMUNICATION DEPARTMENT MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE

No. 2, Jalan 9/10, Persiaran Usahawan, Seksyen 9,
43650 Bandar Baru Bangi, Selangor Darul Ehsan



Scan the QR Code to view our Annual Report 2020.

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2020 KEY

CLIMATE ACTION HIGHLIGHTS

Completed the **LOW CARBON MOBILITY BLUEPRINT 2021-2030 (LCMB)**

MINISTRY OF ENVIRONMENT AND WATER (KASA) established to lead sustainable environmental and water conservation efforts

RM2 BILLION allocation for **GREEN TECHNOLOGY UNDER BUDGET 2021**

GREEN TECHNOLOGY FINANCING SCHEME (GTFS) 3.0 launched to support issuance of Sustainable and Responsible Investment (SRI) Sukuk and green bonds

Establishment of **GOVERNMENT GREEN PROCUREMENT (GGP) GUIDELINES 3.0** listing **40 GGP CRITERIA** for products and services

Developing **MALAYSIA CLIMATE ACTION SIMULATOR (MCAS)** in 2020 and is expected to be ready by April 2021, allowing users to track GHG emissions trajectory in simulated scenarios through to 2050

GHG EMISSIONS REDUCTION

- **575,564 tCO₂eq** from GITE & GITA Applications
- **1,315,000 tCO₂eq** per year from GTFS 2.0
- **54,000 tCO₂eq** annually through EMGS
- **148,572 tCO₂e** from LCC 2030 Challenge
- **6,545 tCO₂eq** from GGP
- **360 tCO₂eq** per year from MGTC's Green Energy Office (GEO) Building
- **1,190,173kg tCO₂eq** from ChargEV
- **22,600kg tCO₂eq**, or **17% reduction**, from MGTC's Flexible Working Arrangement 2.0 Policy introduced in August 2020

FINANCIAL HIGHLIGHTS

REVENUE

RM5.9 MILLION

PROFIT BEFORE TAX

RM447,018

PROFIT AFTER TAX

RM94,084

TOTAL ASSETS

RM102.5 MILLION

CASH & CASH EQUIVALENTS

RM72.0 MILLION

GOVERNMENT GRANTS UTILISED

RM29.2 MILLION

HIGHLIGHTS

PROGRAMME HIGHLIGHTS

112 PROJECTS approved under **GTFS 2.0** to date, creating **491 GREEN JOBS**

Annual International Greentech and Eco Products Exhibition and Conference Malaysia (IGEM) 2020

FIRST VIRTUAL IGEM CONFERENCE

Attracted **161 EXHIBITORS** and over **15,000 VISITATIONS** from **79 COUNTRIES**

Produced **55 CONFERENCE SESSIONS**

RM3.4 BILLION worth of business leads generated from IGEM 2020

Low Carbon Cities (LCC) Award 2020

• **14 LOW CARBON ZONES** and **20 LOW CARBON PARTNERS** awarded Diamond Recognition

• **1 LOW CARBON ZONE** and **21 LOW CARBON PARTNERS** awarded Provisional Certificate

Enrolment of **24 LOW CARBON ZONES** with **45 LOW CARBON PARTNERS** under the **Low Carbon Cities 2030 Challenge (LCC2030C)**

62 National Energy Awards (NEA) presented to various Malaysian organisations today

31 ORGANISATIONS appointed as **Industry Lead Body (ILB)** for Green Technology with **26 National Occupational Skills Standards (NOSS)** programmes developed

30 LOCAL AUTHORITIES (PBT) initiated low carbon initiatives under the **Low Carbon Cities Framework (LCCF)**

15 MALAYSIAN ORGANISATIONS recognised at the **ASEAN Energy Awards (AEA) 2020**, including MGTC

Introduced **FLEXIBLE WORKING ARRANGEMENT 2.0 POLICY** in August 2020 after **Transport Carbon Assessment** of MGTC Staff

6 LCC WEBINARS conducted in 2020, with over **1,300 PARTICIPANTS** in attendance

Organised **3 'CLIMATE CHANGE CONVERSATIONS' WEBINARS** in 2020, with over **340 PARTICIPANTS** in attendance and **122,596 FACEBOOK ENGAGEMENTS**

10 'Green Talk' episodes produced in 2020, reaching **21,994 VIEWERS** in total with over **2,874 ENGAGEMENTS**

243 Green Technology Tax Incentive applications approved to date have a potential value of green investment **RM965.6 MILLION**

MyHIJAU Mark & Directory registered **7,498 PRODUCTS AND SERVICES** from **470 PARTICIPATING COMPANIES**

RM52.638 MILLION in total investment under the **Energy Audit Conditional Grant (EACG)** by **108 COMPANIES**

MyRelamp's Eco-labelling scheme introduced to **4 SELECTED PBTs**

251 Energy Management Gold Standard (EMGS) certifications issued, realising savings of **RM44 MILLION** annually from **GHG REDUCTIONS**

Preparation of a **NET ZERO CARBON PAVILION** for **Expo 2020 Dubai** underway

Energy Management and Climate Change Programme (EMCP)

27 TRAINING PROGRAMMES

8,842 PEOPLE TRAINED

1,974 PEOPLE CERTIFIED

Energy savings of **500,000 kWh** per year from green innovations incorporated into **MGTC's Green Energy Office (GEO) Building**

ChargEV

- **73 NEW CHARGING POINTS** installed for network expansion
- **330 ChargEV** stations installed at **228 PUBLIC LOCATIONS**
- **934,691 kWh** of electricity consumption recorded by ChargEV network in 2020, a **31% increase** from last year

ABOUT MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE

Malaysian Green Technology and Climate Change Centre (MGTC) is an agency of the Ministry of Environment and Water (KASA) mandated to drive the country in the scope of Green Growth, Climate Change Mitigation and Green Lifestyle.

Three national policies, particularly the National Green Technology Policy (NGTP), the National Climate Change Policy (NCCP) and the Green Technology Master Plan (GTMP), regulated MGTC's role as a catalyst for green economic growth.

MGTC implements initiatives and programs that provide specific details in achieving the long-term impact of the Nationally Determined Contribution (NDC) to reduce the intensity of greenhouse gas emissions by 45% based on Gross Domestic Product (GDP) compared to the intensity of emissions in 2005 by 2030, increasing the rate GDP from green technology of RM100 billion and the generation of 230,000 green jobs.

MGTC performs three (3) roles, as shown below:



1 Mainstreaming the Green Economy through green product and service expansion programmes such as the MyHIJAU Mark Certification Programme. The Green Technology Financing Scheme (GTFS) & Green Technology Investment Tax Exemption (GITE) as well as training and human capital development schemes.



2 Drive climate change mitigation actions such as advocacy for energy efficiency and renewable energy, low carbon urban programmes and low carbon mobility.

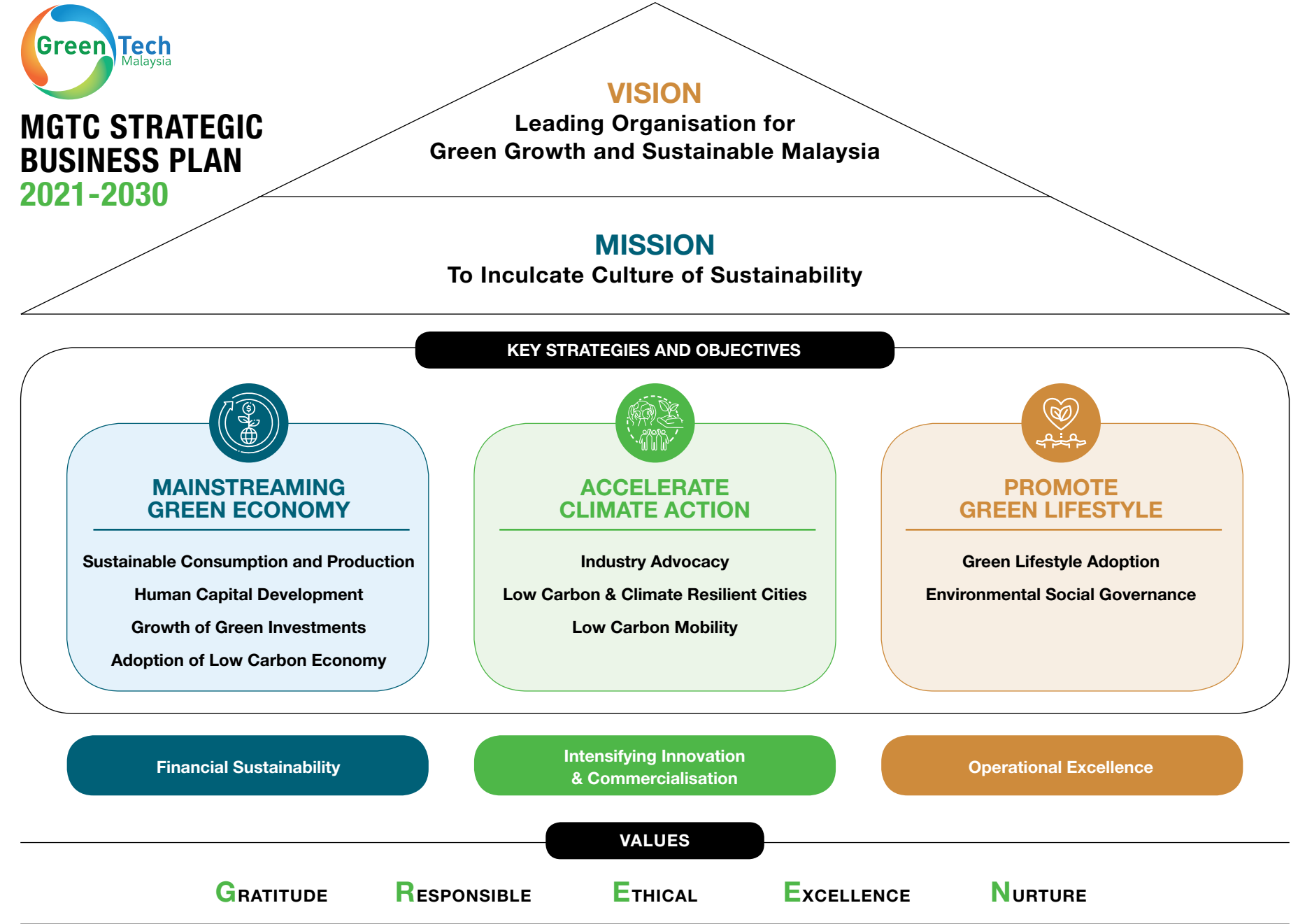


3 Cultivate a green lifestyle through publicity and awareness programmes in fostering cooperation between the government and private sectors on global-scale platforms such as International Greentech and Eco Products Exhibition and Conference Malaysia (IGEM) and other public programmes physically or through social media.

CORPORATE PROFILE



MGTC STRATEGIC BUSINESS PLAN 2021-2030



CHAIRMAN'S STATEMENT



**PROFESSOR DATO' IR. DR.
A. BAKAR BIN JAAFAR**

PEng, FIEM, FASc

CHAIRMAN

CHAIRMAN'S STATEMENT



DEAR SHAREHOLDERS,

ON BEHALF OF THE BOARD OF DIRECTORS, I AM PLEASED TO PRESENT THE ANNUAL REPORT AND AUDITED FINANCIAL STATEMENTS OF THE MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE (MGTC) FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020.

GLOBAL ECONOMY

The Covid-19 pandemic caught the world by surprise and exposed the vulnerabilities of our institutions and our dependency on a network of global eco-systems to support our economies. As countries begin to deal with the challenges of the pandemic, a new norm is taking shape and is changing the global economy.

This challenge provides us the opportunity to build back better and lead a green recovery. There is an increasing appreciation of the value of our natural environment and an increasing sense of responsibility to protect, preserve and restore our natural ecosystems for the present and future generations. This will lead to the increased adoption of green technology and the acceleration of green growth across all economic sectors.

Guided by Malaysia's commitment to reduce greenhouse gas emissions by 45% tCO₂ per GDP per capita by 2030 against the 2005 baseline, Malaysia is uniquely positioned to take advantage of this opportunity and make the green economy a key driver for national economic growth over the next several decades.

CHAIRMAN'S STATEMENT

STRENGTHENING THE LOCAL LANDSCAPE

The establishment of the Ministry of Environment & Water (KASA) signalled the Government's commitment toward enhancing environmental protection and staying focused on the climate change agenda. MGTC continues to be the primary implementing agency of the Ministry with the mandate to accelerate green growth and advance climate action.

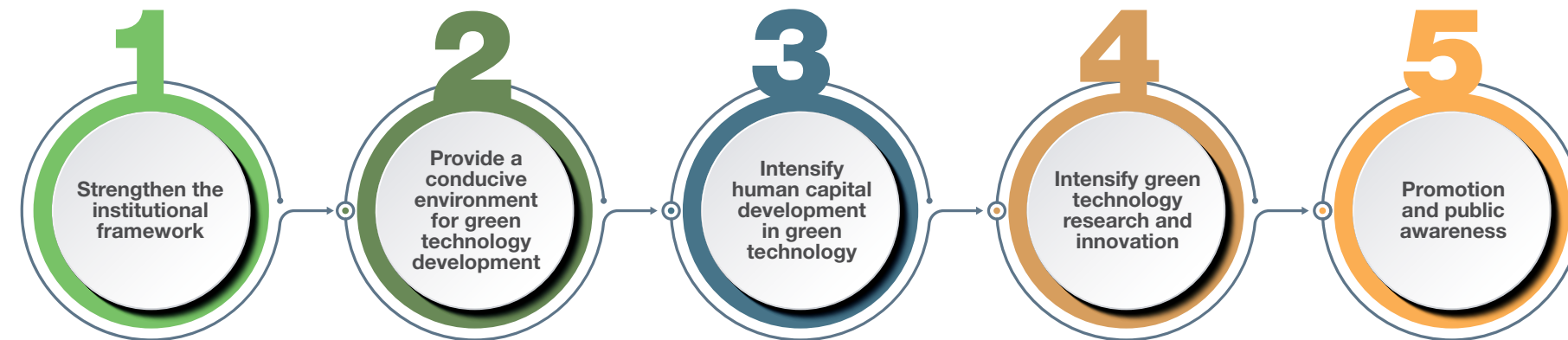
Successfully overcoming the Covid-19 pandemic challenges, MGTC managed to facilitate RM3.4 billion in potential business leads through IGEM Virtual 2020, RM1.92 billion in green financing under GTFS 2.0 and RM966 million in investments across 243 green projects. Similarly, MGTC collaborated with government and industry stakeholders to reduce 0.839 million tCO₂e in greenhouse gas emissions through the implementation of low carbon initiatives. We are also proud to have supported SMEs that added over

2,300 new green products and services into the local green economy marketplace.

On the policy front, the National Policy on Climate Change, National Green Technology Policy, Shared Prosperity Vision 2030, the Five-Year Malaysia Plans and the National Green Technology Master Plan 2017-2030 remain the key guiding documents for our programmes and initiatives. We worked closely with central ministries and agencies including the Ministry of Finance (MoF) and Economic Planning Unit (EPU) as well as other ministries including the Ministry of Science, Technology & Innovation (MOSTI) and the Ministry of International Trade & Industry (MITI) to embed these policies in programmes and initiatives across the whole of government. We remain steadfast along our 5 key strategic thrusts to strengthen the local green technology landscape.

“
MGTC
managed to facilitate
**RM3.4
BILLION**
in potential business
leads through
IGEM Virtual 2020

MGTC'S 5 KEY STRATEGIC THRUSTS



CHAIRMAN'S STATEMENT



MGTC WORKS CLOSELY WITH KEY MINISTRIES AND INDUSTRY STAKEHOLDERS TO NURTURE THE CIRCULAR ECONOMY ECOSYSTEM IN MALAYSIA

REVIEW OF FINANCIAL PERFORMANCE

MGTC recorded a pre-tax profit of RM0.447 million in 2020, which is a reduction of 72.1% over the previous year of RM1.618 million. This was mainly due to the drop in revenue from Alternative Funding and Industry-Based projects as the Covid-19 pandemic severely affected the local economy. The Department of Statistics Malaysia reported that Malaysia's GDP contracted by 5.6% in 2020. Nevertheless, MGTC adopted prudent financial management to minimise the impact and achieve a positive total Net Surplus After Tax of RM447,018.

THE NEXT DECADE

In spite of these achievements, our work is far from over. The next decade will put to test our resolve and gauge the impact of our efforts in addressing climate change and could define how this Century will play out. We are in a race against time to multiply green investments, amplify net-zero carbon strategies, accelerate green technology innovation, and achieve a paradigm shift where a sustainability lifestyle is the norm.

I would like to take this opportunity to highlight two emerging economies that can pave the way toward decarbonisation and truly achieve the decoupling of greenhouse gas emissions and economic growth.



The first is hydrogen economy. As a very efficient energy carrier, the potential use cases for hydrogen are extensive; from power generation to fuelling electric vehicles. With almost 80% of Malaysia's greenhouse gas emissions coming from the energy sector, green hydrogen has the potential to be the zero-carbon fuel that drastically reduces our greenhouse gas emissions. The challenge in front of us is to be able to economically produce green hydrogen, safely store and transport it and efficiently use it. MGTC has already begun working closely with key stakeholders from academia and industry to champion the green hydrogen economy in Malaysia. With the global hydrogen economy expected to reach RM10 trillion by 2050, Malaysia can be a key player in this sector.

The second is circular economy. Circular economy has been identified as a key national STIE (science, technology, innovation and economy) niche area under the 10-10 MySTIE framework. It not only has the potential to support exponential economic growth but also provide social impact to the most vulnerable. The adoption of circular economy across all sectors and industries forces us to relook at how value is created. There is a no difference between waste and resource, except in value. New and innovative business models need to be pioneered and enviro-economic policies such as Indifferent Consumers-Pay Principle need to be adopted. On this front, MGTC is also working closely with key ministries and industry stakeholders to nurture the circular economy ecosystem in Malaysia.

STRENGTH IN COLLABORATION

The challenges that lie ahead are tremendous and can only be overcome through partnerships and collaboration. Nevertheless, it is exciting times for green technology and climate action. I am grateful to have the support of all stakeholders in the public and private sector as well as from our partners in academia and non-government organisations.

I look forward to working with all our stakeholders, Partners, the Board of Directors, the MGTC Leadership and all employees of MGTC, to shape a sustainable future for Malaysia and deliver on the mandate of accelerating green growth and advancing climate action.

Thank you.

**PROFESSOR DATO' IR.
DR. A. BAKAR BIN JAAFAR** PEng, FIEM, FASc
CHAIRMAN

CEO'S STRATEGIC REVIEW

TS. SHAMSUL BAHAR MOHD NOR
CHIEF EXECUTIVE OFFICER



DEAR SHAREHOLDERS,

A DECADE HAS PASSED IN WHICH WE HAVE SUBSCRIBED, WITH PHENOMENAL SUCCESS, TO THE CAUSE OF ENSURING ENVIRONMENTAL SUSTAINABILITY WITHIN THE GLOBAL CONTEXT. IN STRIVING EXPONENTIALLY TOWARDS BEING INSTRUMENTAL IN THE FORMATION OF PLANETARY HEALTH FRAMEWORKS, THE NEXT DECADE REQUIRES MUCH MORE INNOVATIVE AND IMPACTFUL STRATEGIES. WITH THESE CONSIDERATIONS, I AM PROFOUNDLY DELIGHTED TO PRESENT TO YOU THE STRATEGIC EXAMINATION OF THE MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE'S (MGTC) FINANCIAL REPORT FOR THE YEAR ENDED 31 DECEMBER 2020 (FY2020).

In these turbulent socioeconomic times, fending off the coronavirus while maintaining a positive financial outlook requires collaboration fashioned from resources within the management and stakeholders. As MGTC's Chief Executive Officer (CEO), I reiterate that innovative approaches and strategies are required to carry our sustainability aspirations through the changes and challenges of the past year – at a time when there is such tremendous strife from the global pandemic, but also increasing awareness and demand for climate action.

What we do in these rare moments of history will define the course of our future for years to come. What exciting times these are!

GEO'S STRATEGIC REVIEW



Through public education, leadership by example and collaborations with other agencies and industry players, MGTC serves as the central driving force to help Malaysia reduce the greenhouse gas (GHG) emissions intensity of GDP by 45% by 2030 relative to the emissions intensity of GDP in 2005. MGTC is at the forefront of this charge and we are working on the next generation of solutions such as electric mobility, green hydrogen production and circular economy.

GREEN ECONOMY

At MGTC, we believe the best way for us to contribute is to lead by example, establishing policies and guidelines for others to follow and diligently executing our responsibilities to realise the nation's green economy goals.

We have been working within the Government to incentivise green technology adoption among the industry, which has gained renewed interest amid the pandemic. Covid-19 opened the industry's eyes to the importance of green

technology in reducing greenhouse gas (GHG) emissions and conserving energy and resources that can translate into significant savings for adopters.

**IN 2020,
GTFS 2.0 ENABLED POTENTIAL
GREEN INVESTMENT WORTH**

RM2.38 BILLION



We must rebuild our way of life and way of business better than before and deliver a green recovery."

The great pause of the pandemic gave us a glimpse of what was possible. We as a population saw hope in the fight against climate change through lifestyle modifications, while those of us at MGTC were also re-energised by the potential of policy-driven pivots. This experience showed us that we must build back our way of life and way of business better than before and deliver a green recovery. It was time to unleash innovation in green technology to widen the reach of environmental policy and accelerate the transition to low carbon living to create a sustainable and resilient Malaysia for generations to come. Just as how we have frontliners in the fight against the pandemic, we also need frontliners to safeguard planetary health and it falls on us to take up that clarion call.

2020 ASPIRATIONS

The global community was hard hit by the Covid-19 pandemic. The world economy ground to a halt and every aspect of our lives and lifestyles were impacted by the outbreak and efforts to curb its spread.

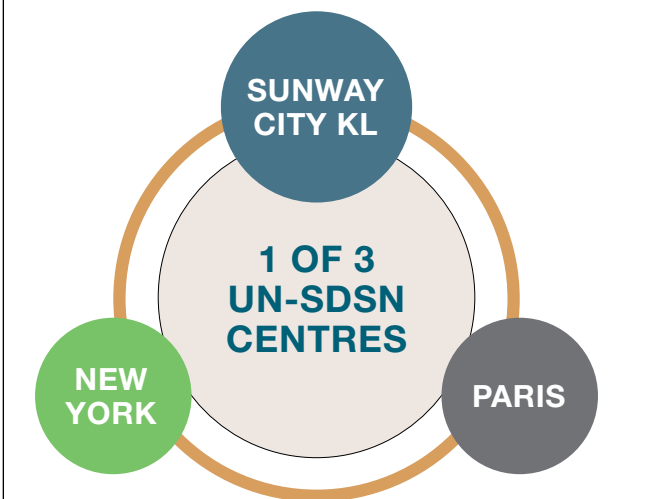
However, the pandemic was also a wake up call from Mother Nature – a chance for us to hit the reset button. With the slowing down of commercial activities and less movement by the population, the world saw lots of changes to the environment, sighting smog-free blue skies and clean rivers that we had not seen for decades since industrialisation hit its peak. It focused the world's attention on the depth of human impact on our planet as well as the tremendous ability of Mother Nature to bounce back when given the chance.

GEO'S STRATEGIC REVIEW

**IGEM GENERATED
RM33 BILLION
IN BUSINESS LEADS
CUMULATIVELY SINCE 2010**

cycling paths – all of which can reduce our nation's energy dependency on the electrical grid of coal-fired power plants and enhance the adoption of greener lifestyles among the population.

Malaysia's very own Sunway City Kuala Lumpur has emerged as a leading model sustainable city in the region and has been selected as one of three global centres for the United Nations Sustainable Development Solutions Network ("UN-SDSN") overseeing continent-wide sustainability initiatives for Asia, to complement New York's role for the Americas and Paris' for Europe and Africa.



MGTC successfully recorded a total of 112 Certified Green Projects carried out under Green Technology Financing Scheme (GTFS) 2.0 in 2020 with RM1.92 billion in funding. This enabled a potential green investment of RM2.38 billion. Furthermore, GTFC 3.0 was announced during the Budget 2021 speech on 6 November 2020, with a fund size of RM2 billion as part of the Government's agenda to support Sustainable and Responsible Investment (SRI) and to drive green and sustainable standards in Malaysia.

This was to be backed by the continuing tax incentives introduced in 2014 – Green Income Tax Exemption (GITE) for MyHIJAU Mark service providers and Green Investment Tax Allowance (GITA) for companies acquiring green technology assets listed under the MyHIJAU directory. As of FY2020, MGTC has approved a total number of 243 applications with a potential value amounting to RM965.6 million, which is expected to reduce GHG emissions by 575,564 tCO₂e and create a total of 471 green jobs.

Though the majority of our programmes and initiatives could not be carried out as planned, our targets for the year did not change. We were adamant about not compromising on that as we still had to deliver the growth of the nation's green economy and the environment. Thanks to the team's quick action to rethink the delivery of our programmes from the ground up, we managed to pull through and achieve 90% of our KPI, details of which are outlined in the Strategic Review portion of this annual report.

Chief among these is the successful migration of MGTC's signature event, the International Greentech and Eco Products Exhibition and Conference Malaysia (IGEM) 2020, onto a virtual platform. Held on 19 to 23 October 2020 with the theme of "Energising Sustainability", IGEM 2020 attracted 161 exhibitors and over 15,000 visitations from 79 countries. It drew a total of 10,000 participants to its 55 conference sessions and 77 talk pockets in 2020 and has over the years, generated RM33 billion worth of business leads cumulatively since 2010.

LOW CARBON SOLUTIONS

Another development to note in 2020 is the establishment of the Ministry of Environment and Water (KASA) to lead sustainable environmental and water conservation efforts at the national level. We are pleased to be one of the key implementing agencies under the new Ministry and with it, our mandate and responsibility on green technology and climate action have only grown stronger.

Achieved **90%** OF OUR KPI despite the pandemic

We remain steadfast in driving Malaysia's GHG emissions reduction agenda through low carbon solutions such as the transformation of Malaysia's urban centres into Low Carbon Cities (LCC) endorsed by the Low Carbon Cities Framework (LCCF). MGTC has been pushing for LCC adoption at municipality level, working with local authorities (PBT) to effect greater implementation of energy efficient systems across its buildings, public transportation systems, waste management and landscaping. This can be achieved through the introduction of rainwater harvesting, solar panels, electric busses, energy-efficient lighting, composting and recycling initiatives, walkways and

GEO'S STRATEGIC REVIEW

Out of the 154 PBTs in the country, 64 PBTs underwent training sessions and capacity development programmes under the LCCF, with 30 PBTs having initiated various low carbon initiatives. The Low Carbon Cities 2030 Challenge (LCC2030C) launched in 2019 recorded enrolment from 24 Low Carbon Zones with 45 Low Carbon Partners as of FY2020, with a reduction of 148,572 tCO₂e recorded. We hope to see more municipalities and property developers playing a role in advancing this agenda as MGTC continues to support its implementation by providing the necessary tools including the Ministry of Finance (MOF) funding grants, city design guidelines, measurement and reporting methodology, an assessment and recognition programme, and other low carbon strategies.

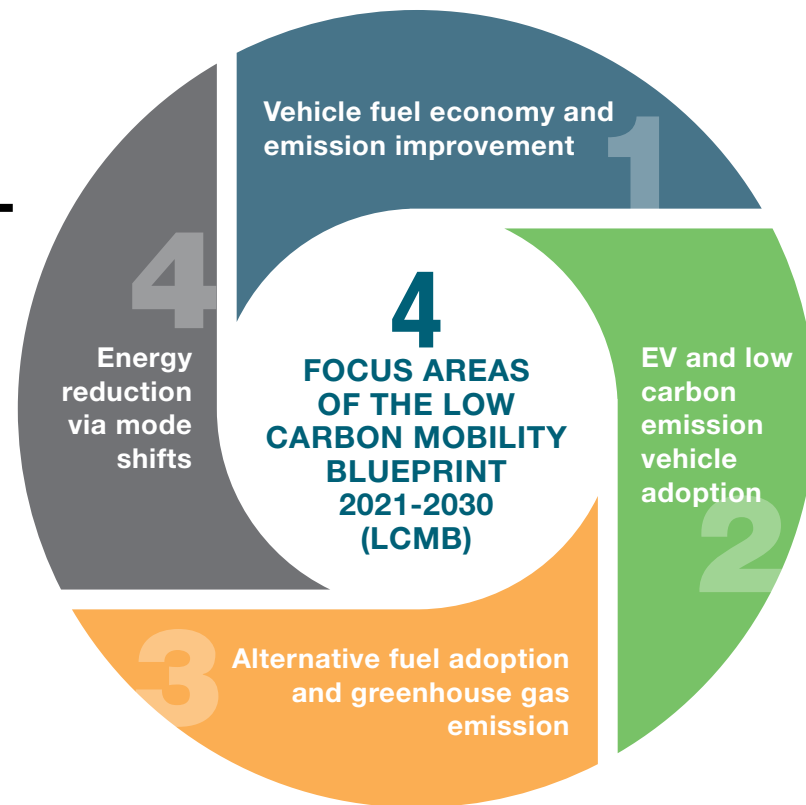
“
LCC 2030 CHALLENGE
 achieved emissions
 reduction of
148,572
tCO₂e
 as of FY2020

Aside from progress made on the LCC front, MGTC also completed the draft for the Low Carbon Mobility Blueprint 2021-2030 (LCMB) in FY2020 together with KASA, which was successfully launched in April 2021 and tabled for the Government's adoption. The LCMB is a very important blueprint for the country's decarbonising plan, which was prepared in consultation with stakeholders such as key ministries, agencies, government-linked companies, local authorities, industry associations, members of academia and non-governmental organisations, with over 30 stakeholder consultation sessions conducted in the process. The policy framework seeks to reduce emissions from the transportation sector, which currently ranks as the second largest CO₂ emitter in the nation after the energy sector, contributing 25% to

30% of the nation's GHG emissions with predominantly internal combustion engine (ICE) vehicles on the road.

The blueprint deploys a policy framework to mainstream the shift towards electrification in the transportation industry as a key strategy to diminish our emissions and contribute towards the achievement our national Paris Agreement GHG target. It provides four focus areas, 10 strategies and 45 action plans to achieve this, including ensuring that the

public would have the means of using electric busses, getting more people to use public transportation more frequently, providing incentives to enablers of these goals, such as incentives for electric vehicle (EV) manufacturers and distributors, changing vehicle taxation system based on vehicle carbon emission as opposed to engine capacity and growing the nation's EV charging infrastructure, among others. The LCMB provides the way forward to progressively reduce the nation's carbon dioxide emissions, to phase out the use of fossil fuel ICE vehicles in the future in alignment with neighbouring Thailand's and Singapore's commitments as well as global best practices.



GEO'S STRATEGIC REVIEW

Aside from that, Malaysia also looks towards efficient energy management as a means to lower our carbon emissions through the Energy Management Gold Standard (EMGS), which provides companies a Sustainable Energy Management System (SEMS) focusing on cost savings for adopters and training for energy managers to drive energy efficiency in their organisations. MGTC continues to support this initiative as the appointed certification body for EMGS in Malaysia. As of FY2020, MGTC had issued 256 EMGS certifications on behalf of the ASEAN Centre for Energy (ACE) under the ASEAN Energy Management Scheme (AEMAS). The National Heart Institute (IJN) and Universiti Teknologi Malaysia (UTM) remains the only organisations - and the first in their respective sectors - to be awarded the highest EMGS-3 Rating.

FUTURE ECONOMIES

The green technology industry is growing both locally and internationally across all sectors. More and more countries are demanding green and sustainable products and are transitioning towards a low carbon or a net-zero carbon economy. Malaysian SMEs have the opportunity to be a part of this shift in global economy with MGTC as an enabler in capacity building, creating green products and services, providing financial incentives and promoting local green SMEs internationally.

While the rest of the region is focusing on EVs, we are setting our sights on becoming the hub of green hydrogen production in South East Asia. Hydrogen's superior gravimetric energy density makes it the most



suitable alternative for large-scale storage of renewable energy, with immense potential to supplant existing modes of energy generation as a cleaner fuel source with zero carbon emissions. With hydrogen as the primary source of energy of the future, Malaysia is able to envision the prospect of a Green GDP where our economic activities produce more green products with net zero effects on the environment than our carbon consumption.

Malaysia is also scaling up towards a circular economy, gradually decoupling our economic growth from the consumption of finite resources, with efforts focusing on enforcing reduction of waste and increasing the use of recycled materials in the manufacturing and building process.

Supporting this vision is the Government Green Procurement (GGP) efforts, which started in 2016 with the participation of just 5 Ministries but is now practised by all Government departments. GGP relies on MGTC's

“
MALAYSIA IS ALSO SCALING UP TOWARDS A CIRCULAR ECONOMY, GRADUALLY DECOUPLING OUR ECONOMIC GROWTH FROM THE CONSUMPTION OF FINITE RESOURCES.”

MyHIJAU Mark registration and the maintenance of a growing list of products that are green certified, ranging from paint, fertilisers, solar panels, home appliances and ICT products currently totalling 7,498 items, from which the MOF references for each Ministry's purchasing needs. As of 2019, a promising 21% of the Government's spending is on green products, with 24% being our next goal post. The Government is taking the lead in walking the talk and we hope to see greater participation from the private sector in producing more green products, getting more products MyHIJAU-certified and similarly, using the list to guide the private sector's purchasing considerations, so that all aspects of our GDP from public consumption, investment, procurement to net export can effectively contribute to our goal of a Green GDP.

I truly believe the green goals our country has committed to and the targets set internally by our dedicated teams are within reach. With the support of our partners, industry stakeholders and the guidance of our Directors in strengthening all our existing programmes and envisioning new green initiatives, I have every confidence that MGTC will continue to chart successes in the years ahead and deliver a green and sustainable future for the nation.

TS. SHAMSUL BAHAR MOHD NOR
 CHIEF EXECUTIVE OFFICER

CORPORATE INFORMATION

BOARD OF DIRECTORS

PROF. DATO' IR. DR. A. BAKAR BIN JAAFAR *PEng, FIEM, FASc*
(Chairman)

DR. NAGULENDRAN A/L KANGAYATKARASU

DATUK WIRA JALILAH BINTI BABA

DATUK HISWANI BINTI HARUN

EN. AHMAD KAMAL BIN WASIS @ WAKSIS
(Resigned on 22 June 2020)

DATO' LEONG KIN MUN
(Appointed on 8 November 2020)

CHIEF EXECUTIVE OFFICER

Ts. Shamsul Bahar Bin Mohd Nor

SECRETARY

Shahirah Binti Mohd Anwar
(LS0009909)

Nor Azrina Binti Zakaria
(LS0009161)

REGISTERED OFFICE

Suite C-5-4
Wisma Goshen Plaza Pantai
Jalan Pantai Baharu, 59200 Kuala Lumpur

AUDITORS

Crowe Malaysia PLT
Level 16, Tower C, Megan Avenue II
12, Jalan Yap Kwan Seng
50450 Kuala Lumpur, Malaysia

PRINCIPAL PLACE OF BUSINESS

No. 2, Jalan 9/10
Persiaran Usahawan, Seksyen 9
43650 Bandar Baru Bangi, Selangor Darul Ehsan

PRINCIPAL BANKER

CIMB Bank Berhad
Serdang Perdana
Ground Floor & Mezzanine
No. 33, Jalan SP 2/1, Taman Serdang Perdana
43300 Seri Kembangan, Selangor Darul Ehsan

BOARD OF DIRECTORS

PROF. DATO' IR. DR. A. BAKAR BIN JAAFAR
PEng, FIEM, FASc
(Chairman)

DR. NAGULENDRAN A/L KANGAYATKARASU

DATUK WIRA JALILAH BINTI BABA

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DIRECTOR'S PROFILE

PROFESSOR DATO' IR. DR. A. BAKAR BIN JAAFAR

PEng, FIEM, FASc

CHAIRMAN



Date Appointed:

4 October 2019

Qualification:

- Bachelor's Degree (Hons) in Mechanical Engineering, University of Newcastle, NSW, Australia
- Master's Degree in Environmental Science, Miami University, Ohio, USA
- PhD in (Marine) Geography from the University of Hawaii, Manoa, USA
- Hon. DSc, University of Terengganu Malaysia
- Hon. DSc, The University of Newcastle, NSW, Australia

Experience:

Prof Dato' Ir. Dr. A. Bakar Jaafar, PEng, FIEM, FASc, has served the Government of Malaysia in various capacities since 1973. His career included stints as Factories and Machinery Inspector (1973-74), Staff Engineer of the US EPA Office of Research & Development, Industrial Environmental Research Laboratory (1975-76); Principal Assistant Director (Water Quality), Environment Division, Ministry of Science, Technology and Environment (1976-80); Research Grantee at Environment & Policy Institute, East-West Center, Honolulu, Hawaii, USA (1980-83); Principal Assistant Director (Science, Technology, & Environment), Economic Planning Unit in the Prime

Minister's Department (1984-85); DOE Director of Operations (1985-86), DOE Deputy Director-General (Planning) (1987-1989), and as the Director-General of the Department of Environment Malaysia (DOE) (1990-1995).

After his optional retirement, he continued to serve the Government of Malaysia as the Elected-Member of UNCLOS Commission on the Limits of the Continental Shelf for three terms from 1997-2002, 2002- 2007, and 2007-2012, at the UN Headquarters, New York.

Current Appointment & Directorship in other companies/organisations:-

- Vice-President, Academy of Sciences Malaysia,
- Research Fellow, UTM Ocean Thermal Energy Centre
- Professor at Perdana Centre, UTM Razak Faculty of Technology and Informatics
- Board of Directors of public-listed and private companies, including Land & General Berhad, Novaviro Technology Sdn Bhd, AGV Environment Sdn Bhd.

DIRECTOR'S PROFILE

DR. NAGULENDRAN A/L KANGAYATKARASU

DIRECTOR



Date Appointed:

26 August 2019

Qualification:

- Ph.D, University of Nottingham
- MSc (Env. Mgmt), University of Nottingham
- BSc (Hons) Universiti Sains Malaysia

Experience:

Dr. Nagu joined the Malaysian Government as a Diplomatic and Administrative Officer in 1995. For most of his career, he has worked on issues related to biodiversity, biosafety and the environment. His doctoral studies at the University of Nottingham focused on biodiversity governance in Peninsular Malaysia.

He has been involved mainly in policy formulation, developing legal frameworks, diplomacy and negotiations, as well as stakeholder engagements on the many issues and facets of national and global environmental governance. Dr Nagu also feels this pandemic is a wakeup call and while it poses many challenges we could look at a recovery pathways opportunities based on green technology and inclusive

growth that is based on a planetary health approach. Hence agencies like MGTC have a crucial role to play in assisting the nation to wade through this pandemic, as green economy has a huge potential and is one of the fastest growing sector globally.

Dr. Nagu who is a Chevening Scholar, advocates the joint responsibility of all to ensure environmental concerns are mainstreamed into national and global socioeconomic development agendas. He also suggests that changes at an individual level to live in harmony with nature, as a powerful catalyst to augment the implementation of the Sustainable Development Goals. He stresses the need for whole of nation approach to address environmental concerns as he often says, "The environment is usually not everyone's priority, but the environment affects everyone's priority."

Current Appointment & Directorship in other companies/organisations:-

- Deputy Secretary General (Environment) Ministry of Environment and Water (KASA)

DATUK WIRA JALILAH BINTI BABA

DIRECTOR



Date Appointed:

4 July 2013

Qualification:

- Bachelor of Arts (Econ) Hons, University of Malaya, Malaysia

Experience:

Datuk Wira Jalilah Baba is one of the top economists in the country, specialised in Foreign Direct Investments (FDI). She was the Director General and Chief Executive Officer of the Malaysian Investment Development Authority (MIDA), serving MIDA for over 30 years. During that time, she had led numerous negotiations in attracting and evaluating various High Impact Investment Projects for Malaysia.

An articulate speaker with excellent public relations and communications skills, she has been the lead speaker for Malaysia at various national and international conferences. She is one of the main personalities whose opinions and insights are sought after by international media on economics and investment related matters, especially in attracting foreign direct investment (FDI),

tax and customs related matters, as well as project evaluations for industry and the government's high impact incentives packages.

She is active in several industry associations, whereby she was the first woman to be appointed as the President of Malaysia International Chamber of Commerce (MICCI) for a full term of three years.

Current Appointment & Directorship in other companies/organisations:-

- Advisor and a Council member, SME Association Malaysia
- Group Chairman, PKT Logistics Group Sdn. Bhd
- Chairman, Xadacorp Sdn. Bhd.
- Chairman, Crewstone International Sdn.Bhd.
- Board member, Sapura Industrial Berhad.

DIRECTOR'S PROFILE

DATUK HISWANI BINTI HARUN
DIRECTOR



Date Appointed:
4 October 2019

Qualification:

- Diploma in Public Administration, National Institute of Public Administration (INTAN), Malaysia
- Bachelor of Science (Hons) (Zoology), University of Malaya, Malaysia
- Master's in Public Affairs (International Environment Policy), Indiana University, Bloomington, USA

Experience:

Datuk Hiswani Harun has served the Malaysian government for 32 years and during her tenure, she served various Ministries and agencies among others, the Ministry of Science, Technology and the Environment (Director, Conservation and Environmental Management Division); the National Institute of Public Administration (INTAN) as Senior Project Coordinator, Urban and Environmental Management Centre; and the Ministry of International Trade and Industry as Deputy Secretary-General (Trade). While in MITI, she was posted to Geneva, Switzerland where she served as the Minister Councillor, before being promoted as Malaysia's Ambassador/Permanent Representative to the World Trade Organisation (WTO).

Her tenure with MITI include both policy planning and implementation functions for the industrial sector, as well as international trade diplomacy and negotiation. While heading the Sectoral Industry Development Sector, she oversaw policy planning and implementation for industry sectors such as automotive, electrical and electronics, aerospace, iron and steel and machinery and equipment. Her international trade experience includes heading the Malaysian Delegation as Malaysia's Chief Negotiator to the ASEAN Regional Comprehensive Economic Partnership (RCEP), one of the biggest trade pact comprising ASEAN and her six Dialogue Partners. She also represented Malaysia in a number of Free Trade Agreements (FTAs) as well Economic Partnerships negotiations. Due to her advocacy and articulation of the trade and environment relationship, she was appointed by WTO members to chair the WTO Committee on Trade and Environment. Her other achievements include being a member of the Malaysian Delegation to various international and regional conferences, under the auspices of the United Nations, ASEAN and APEC in the areas of sustainable development, economy, and trade.

Current Appointment & Directorship in other companies/organisations:-

- None

DATO' LEONG KIN MUN
DIRECTOR



Date Appointed:
8 September 2020

Qualification:

- Bachelor of Surveying (Hons) in Property Management & Valuation, University of Technology Malaysia (UTM), Malaysia
- Gold Medalist and Vice Chancellor Award winner, University of Technology Malaysia (UTM), Malaysia

Experience:

Dato' Leong has extensive knowledge and experience in green finance solutions, biomass commercialisation and venture capital. Through his company, Primer Capital Sdn Bhd, he has been appointed by the Sustainable Energy Development Authority (SEDA) to helm two national-level consultancy studies on up-scaling financing and developing viable business cases for Low Carbon Public Transportation (Bio-CNG and electric bus) and developing green technology business plans for Local Authorities and Green SMEs. Previously he had served as Technical Advisor to the European Union – Malaysia Biomass Sustainable Production Initiative (Biomass-SP).

He aspires and is devoted to contribute significantly towards realising the National Climate Change Agenda and the Green Growth Agenda in the 5-year Malaysia Plan. Over the last 10 years, he has spoken at more than 100 conferences locally and internationally, and is well connected with stakeholders along the various supply chains of the biomass industries. He has also contributed to various publications in the field of biomass and green finance.

Current Appointment & Directorship in other companies/organisations:-

- Managing Director of Primer Capital Sdn Bhd
- President of Malaysia Biomass Industries Confederation
- Chairman – Panel of Experts (Biomass) for the Malaysia Rubber Export Promotion Council (MREPC) Automation and Green Technology Fund
- Board Member of Environmental Preservation & Innovation Centre (EPIC), Centre of Excellence for Waste Management

DIRECTOR'S PROFILE

EN. AHMAD KAMAL BIN WASIS @ WAKSIS
DIRECTOR



Date Appointed:
4 October 2019

Date Resigned:
22 June 2020

Qualification:

- Degree in Economics (Hons), University Utara Malaysia, Malaysia
- Master's in Political Science and Economics, Meiji University, Tokyo, Japan

Experience:

En. Ahmad was formerly the Director of Economic and Natural Resource Division, Economic Planning Unit, Prime Minister's Department. He has extensive experience in many areas including development planning and policy advocacy in the areas of agriculture, international relations, environment and natural resource management, and sustainable development. He was also involved in promoting sustainable consumption and production (SCP), indicator for sustainable development (SD) and sustainable financing for environment and natural resource management.

Additionally, he has participated as a delegate in international negotiations, especially in the areas of SD, biodiversity and climate change. Throughout his involvement in the international negotiation process, he had the opportunity to present papers on development planning, environment and natural resource governance, and development of indicators for SCP and SD. He was also appointed by the United Nations Economic and Social Commission for Asia and the Pacific regions as rapporteur for the Environment and Development Committee meeting in 2013.

Current Appointment & Directorship in other companies/organisations:-

- Public Service Department (JPA)

LEADERSHIP TEAM

FROM LEFT TO RIGHT

SHAMSUL BAHAR BIN MOHD NOR
CHIEF EXECUTIVE OFFICER

SYED AHMAD BIN SYED MUSTAFA
CHIEF OPERATING OFFICER

SITI HURSI AH BINTI IBRAHIM
DIRECTOR OF TALENT DEVELOPMENT AND
ADMINISTRATION

**TENGGU SHARIFAH HANIF BINTI
TENGGU HAMZAH**
DIRECTOR OF FINANCE

NOOR AZMIN AZALI BIN RAMLI
DIRECTOR OF LEGAL AND SECRETARIAL



LEADERSHIP TEAM'S PROFILE

**SHAMSUL BAHAR BIN
MOHD NOR**
CHIEF EXECUTIVE OFFICER



Date Appointed:
1 November 2019

Role & Responsibility:
He is responsible for directing and overseeing MGTC's overall operational policies, initiatives, and goals to spearhead the country's climate change agenda and to drive sustainable economic development.

Qualification:

- Bachelor's degree in Mechanical Engineering, University of Portland, USA
- Bachelor's degree in Applied Physics with a minor in Mathematics, Linfield College, USA
- Post Graduate Diploma in Business Administration, University of Leicester, UK
- Registered professional member of the Malaysia Board of Technologists (MBOT), Malaysia

Experience:
Prior to joining MGTC, Shamsul Bahar was the Managing Director of Syngas Renewable Energy, the Executive Director of Saham Utama Sdn Bhd, and CEO of Polymal Corporation, with over 30 years of experience in the corporate sector.

His achievements include the effective turnaround of Polymal Corporation from successive losses to accumulated profit after tax of RM4 million within the fourth year, and successfully repositioned the company into a major manufacturer and producer of extruder polymer in South East Asia, with sales in the USA, Europe, Japan, Australia, India and South Africa.

In 2014, Shamsul was awarded patent approval in 40 countries for an RE system that converts waste plastics into commercial ultra-low sulphur diesel oil (EN590), winning him MOSTI's Innovation of the Year Award, MGTC's Catalyst Award and the United Nation's Global Cleantech Innovation Award for Green Technology Renewable Energy Systems.

**SYED AHMAD BIN SYED
MUSTAFA**
CHIEF OPERATING OFFICER



Date Appointed:
18 July 2011

Role & Responsibility:
He is responsible for planning, directing and overseeing the operations of the Green Growth Group and Special Project Group. As COO, he ensures the effective implementation of operational policies and plans with an eye on proper management of resources.

Qualification:

- Bachelor of Science in Business Administration, Central Michigan University, USA
- Master's in International Business Administration, Alliant International University, San Diego, USA

Experience:
Syed Ahmad has more than 30 years of experience in various disciplines in banking. He was actively involved in arranging for financing through syndications and club deals with local and international financial institutions to fund projects in emerging markets in Africa, CIS countries and the Asia Pacific region. He has served on the National Steering Committee of the Biomass Power Generation and Co-generation (BIOGEN) project and the Project Review Committee of the Malaysian Building Integrated Photovoltaic Technology Application (MBIPV).

He was instrumental in setting up the RM1 billion RE/EE Fund and the RM28 million RE Business Fund to spur the development of renewable energy (RE) and energy efficiency (EE) in the country.

LEADERSHIP TEAM'S PROFILE



SITI HURSI AH BINTI IBRAHIM
DIRECTOR OF TALENT DEVELOPMENT
AND ADMINISTRATION

Date Appointed:
15 July 2018

Role & Responsibility:

Puan Siti's responsibility is to lead all HR functions, including Compensation & Benefits, Recruitment & Selection, Talent Management, Talent Development, Industrial Relations, Developing HR Policies and Procedures, Leadership Development Programme and Strategic Business Partnering. She is also in charge of administration, including ICT & Security Management, Asset Management, and Building Service & Facilities Management brings with her an immense amount of experience in the human capital space.

Qualification:

- Bachelor of Human Resource, Open University Malaysia, Malaysia
- Diploma of Human Resource, Universiti Malaya, Malaysia
- Diploma in Banking from Universiti Teknologi Mara, Malaysia

Experience:

Puan Siti has almost 20 years of expertise in human resource management and development.

She was previously the General Manager of Human Resources at one of the government-linked company (GLC) subsidiaries and has held a few leadership positions at multinational companies (MNC) within the manufacturing and oil & gas industry.

She has extensive experience in human capital transformation and talent development. Puan Siti is passionate about formulating and implementing robust and progressive strategies in developing talent for the needs of the MGTC new GREEN generation and its sustainability.

She is currently pursuing her master's in human resource management.



NOOR AZMIN AZALI BIN RAMLI
DIRECTOR OF LEGAL AND SECRETARIAL

Date Appointed:
1 June 2017

Role & Responsibility:

He is entrusted with handling all legal affairs including matters of governance, integrity, and compliance with statutory requirements under the Companies Act. He serves as a liaison officer to the Directors and corporate members, providing advice, guidance and recommendations on disputes and issues which require the interpretation of law.

Qualification:

- Bachelor of Laws (LLB) (Hons) Universiti Kebangsaan Malaysia (UKM), Malaysia

Experience:

Noor Azmin has 13 years of experience as a corporate legal advisor during which he established standard operating procedures (SOPs) and intellectual property (IP) policies, as well as manuals, and templates for various types of documents, forms, letters and agreements pertaining to business operations, collaborations and grant utilisation. He was admitted as an advocate and solicitor of the High Court of Malaya in 2000. His experience encompasses IP licensing and technical/engineering service agreements for technology acquisition, and the various stages from development to commercialisation and monetisation of medical, pharmaceutical and industrial applicable products and hardware.

He has conducted legal clinics and workshops, and introduced special modules for internal departments. He has also organised Board and committee meetings, annual general meetings, and prepared annual reports with support from external company secretaries and internal departmental functions.

LEADERSHIP TEAM'S PROFILE



**TENGGU SHARIFAH HANIF BINTI
TENGGU HAMZAH**
DIRECTOR OF FINANCE

Date Appointed:
March 2003

Role & Responsibility:

She manages and oversees the daily operation of the accounting department. Her responsibilities include monitoring and analysing accounting data, processing financial statements and reports, and establishing and enforcing proper accounting methods, policies and principles in MGTC.

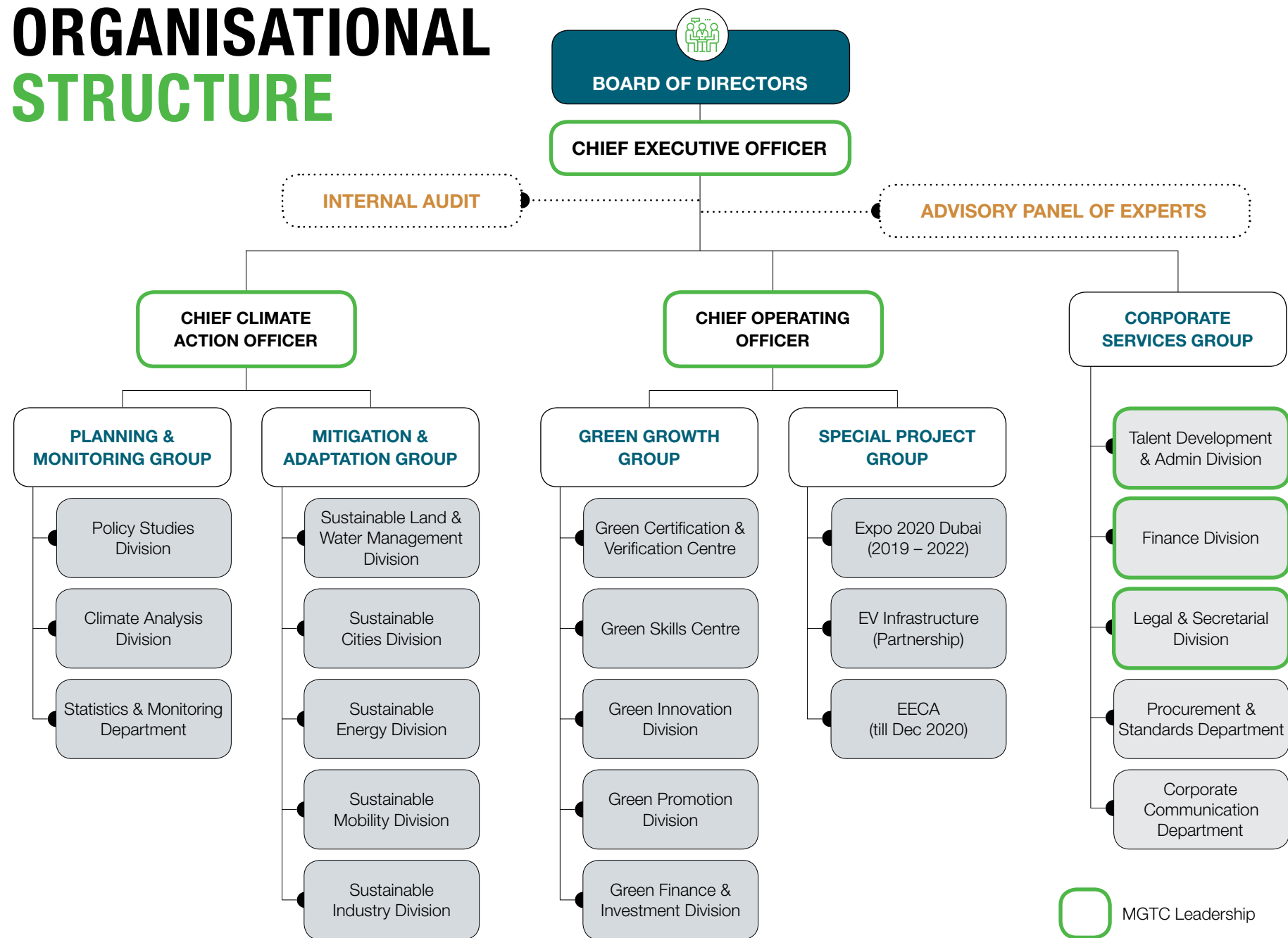
Qualification:

- Bachelor's degree in Accounting, Universiti Kebangsaan Malaysia (UKM), Malaysia
- Diploma in Accounts, Polytechnic Kota Bharu, Malaysia

Experience:

Tengku Sharifah has 20 years of experience in accounting, financial analysis and reporting as well as financial planning and strategy development within organisations. Her familiarity with the field extends to preparing and analysing the financial performance of a company, being constantly aware of the company's financial position, overseeing audits and internal control processes. She has extensive knowledge of financial analysis, budgeting and forecasting, and is proficient with financial management software and accounting principles.

ORGANISATIONAL STRUCTURE



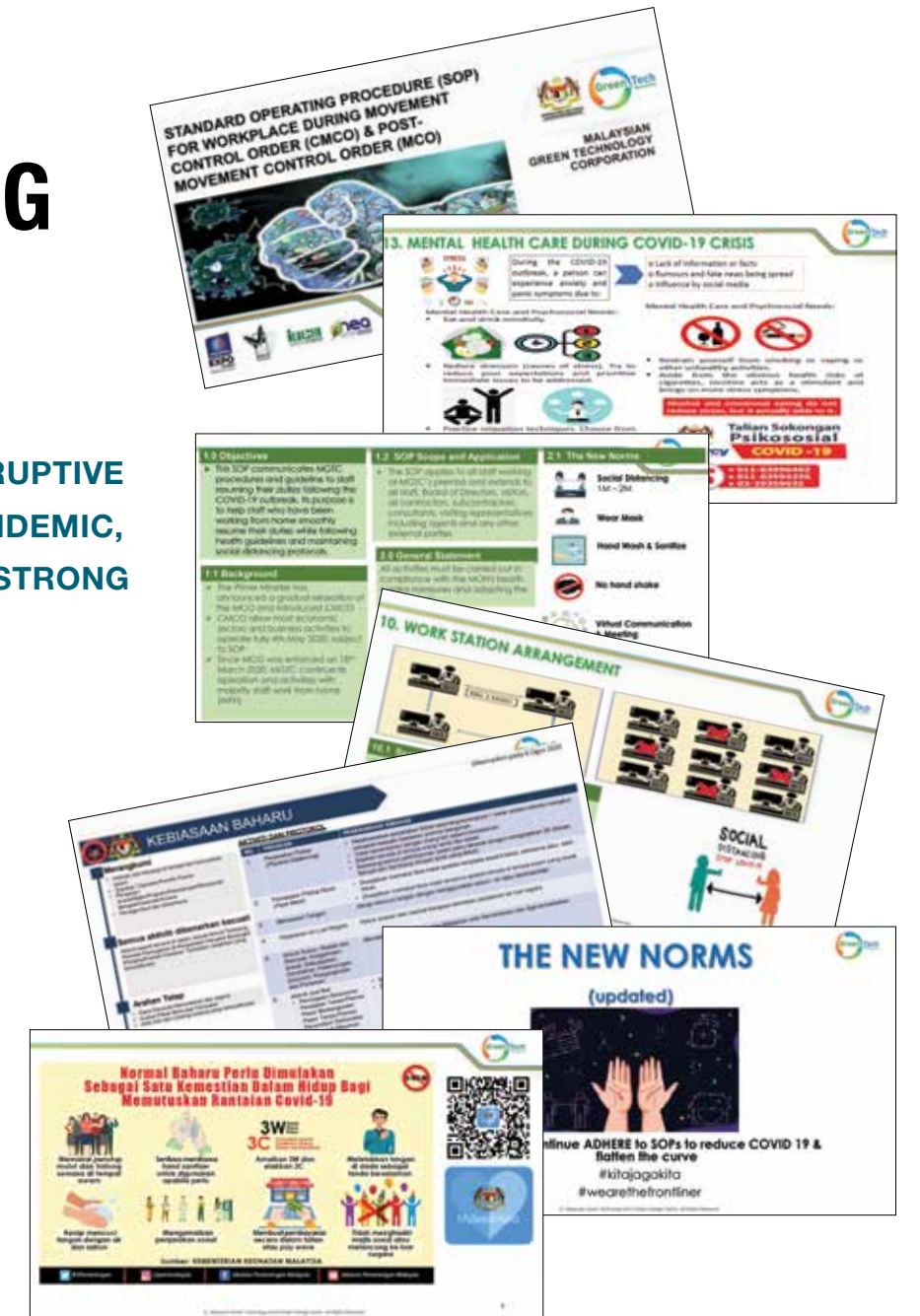
SAFETY AND WELLBEING DURING COVID-19

DESPITE THE UNPRECEDENTED CHALLENGE AND DISRUPTIVE NEW NORMAL BROUGHT ABOUT BY THE COVID-19 PANDEMIC, MGTC STAFF SHOWCASED A POSITIVE ATTITUDE AND STRONG RESILIENCE TO ADAPT.

Complying with the Government's Standard Operating Procedures (SOPs) to curb the spread of Covid-19 infection, MGTC's Talent Development and Administration Department worked swiftly to implement safety measures internally.

Measures included work from home/ work in office, issuing guidelines for Vendors and office disinfection. Regular staff updates via chatgroups and emails on the evolving pandemic situation and safety briefings helped to alleviate undue anxiety amongst staff. In addition, the staff's overall wellbeing was monitored via weekly reports submitted by the respective Heads of Departments.

In working to ensure business continuity with support to its business partners and ongoing projects, MGTC Management had conducted an assessment of the potential impact of the pandemic on its operations and developed appropriate mitigation plans.



STRATEGIC REVIEW

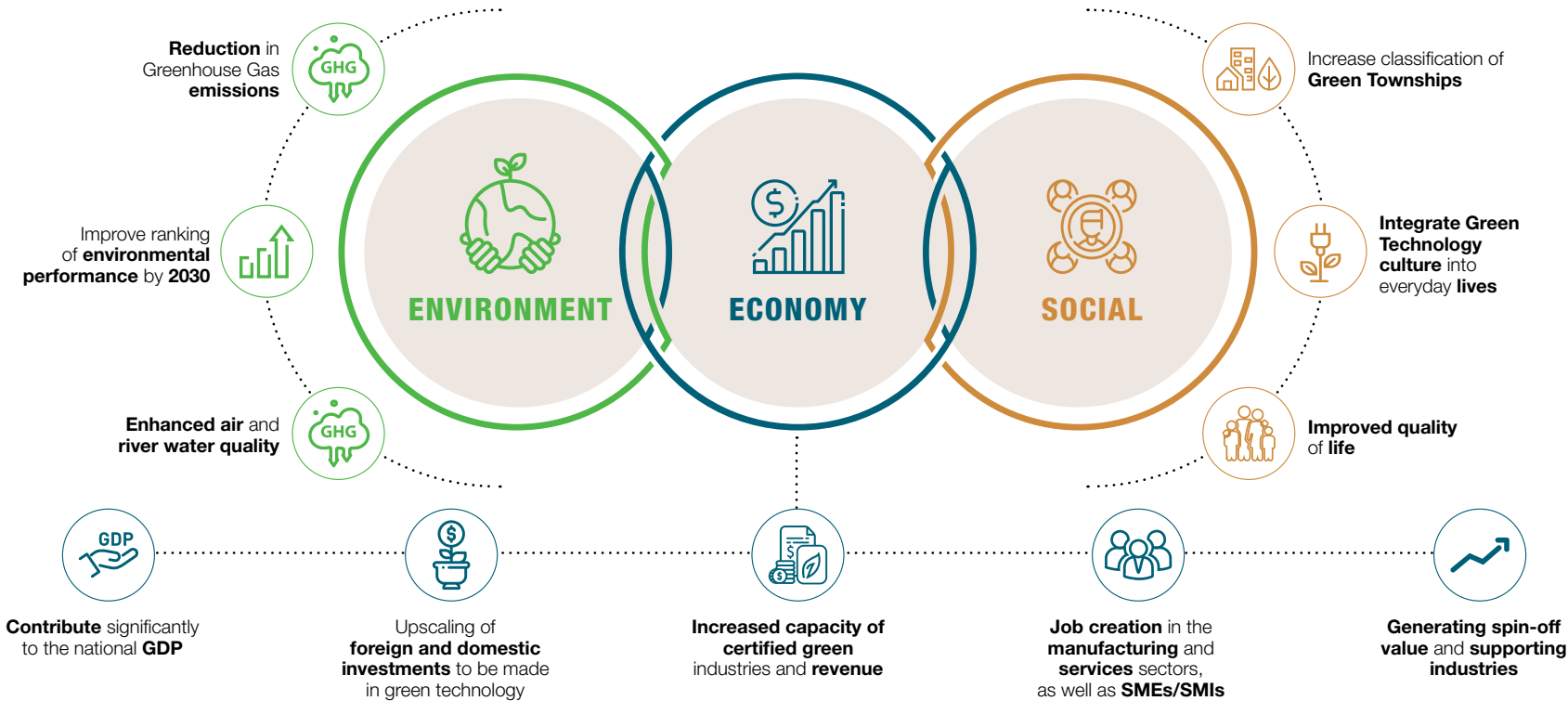
OVERVIEW

The term **Green Technology** refers to the development and application of products, equipment and systems used to conserve the natural environment and resources, which minimises and reduces the negative impact of human activities.

As the lead agency of the government in green technology, the Malaysian Green Technology and Climate Change Centre (MGTC) is tasked to drive this green agenda for the country. It is governed by 3 integral pillars with the objectives below:



To drive this national agenda progressively forward, national key indicators have been mapped out for the respective pillars, as below:



STRATEGIC REVIEW

To effectively achieve these national key indicators, a 5-prong strategic thrust was developed, as outlined below:



UNITED NATIONS

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (UNSDGs)

The UNSDGs represent a universal call to act to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. They provide clear guidelines and targets for all countries to adopt in accordance with their own priorities and the environmental challenges of the world at large.

Malaysia's green technology agenda resonates well within the purview of the UNSDGs, namely in:

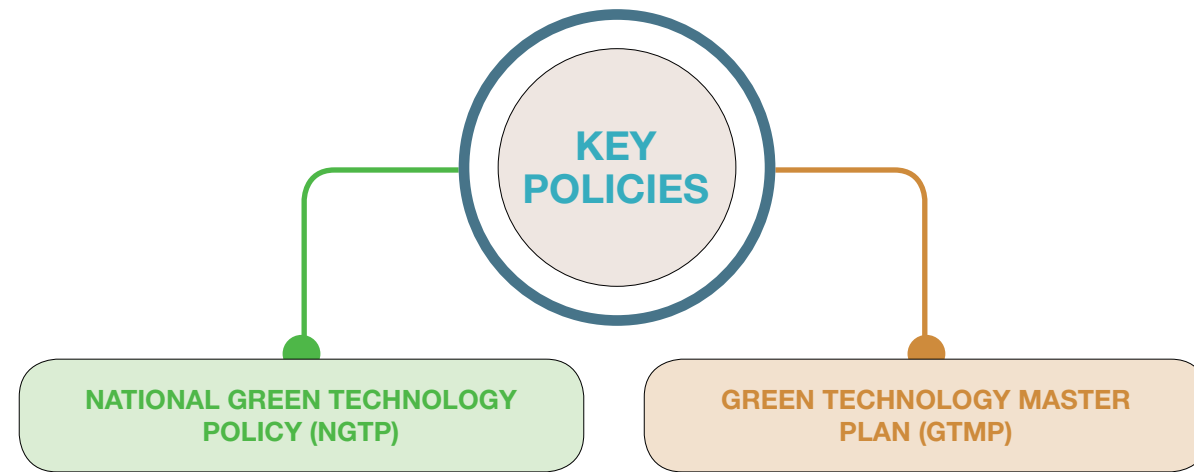


STRATEGIC REVIEW

1 STRATEGIC THRUST
INSTITUTIONAL FRAMEWORK

TODAY'S GLOBAL ECONOMIES ARE STRIVING TO ALIGN THE CONFLICT POSED BY AMBITIOUS ECONOMIC DEVELOPMENT WITH THE OBLIGATION TO PRESERVE THE FINITE NATURAL RESOURCES AND FRAGILE ECOSYSTEMS. IN MALAYSIA, THIS HAS RESULTED IN A STEADILY INCREASING RECOGNITION AND ADOPTION OF GREEN TECHNOLOGY AS A MEANS TO BRIDGE THIS DIVIDE.

In embarking on its green technology and climate change journey, Malaysia developed a set of key policies and institutional arrangements to guide the nation's purposeful footsteps.



NATIONAL GREEN TECHNOLOGY POLICY (NGTP)

Malaysia launched the NGTP on 24 July 2009, given the realisation of the critical need to map out a clear direction for the nation to move progressively forward. This milestone policy firmly positions green technology in accelerating Malaysia's economy and promoting sustainable development, as mirrored in MGTC's 3-pillar concept.

GREEN TECHNOLOGY MASTER PLAN (GTMP)

The GTMP outlines the strategic plans for green technology development to create a low-carbon and resource efficient economy. It guides the actionable and effective course for the country to embark on a green growth journey, establishing the foundation for the cultivation of mindset and behavioural change, to inculcate green lifestyle among the population.

In addition to this, the GTMP was developed to support the then Transformasi Nasional 2050 initiative, to position Malaysia amongst the top countries in the world in economic development, well-being of its population and innovation.

The GTMP outlines the targets of respective key focus areas of green technology applications which can potentially generate the most observable socioeconomic and environmental impact.

STRATEGIC REVIEW

The GTMP also serves as a guidance to foster inter-ministerial collaboration to address grey areas where overlapping authorities are observed. It identifies areas where the Government's intervention is essential to drive changes in order to create conducive ecosystems for the development of green technology.

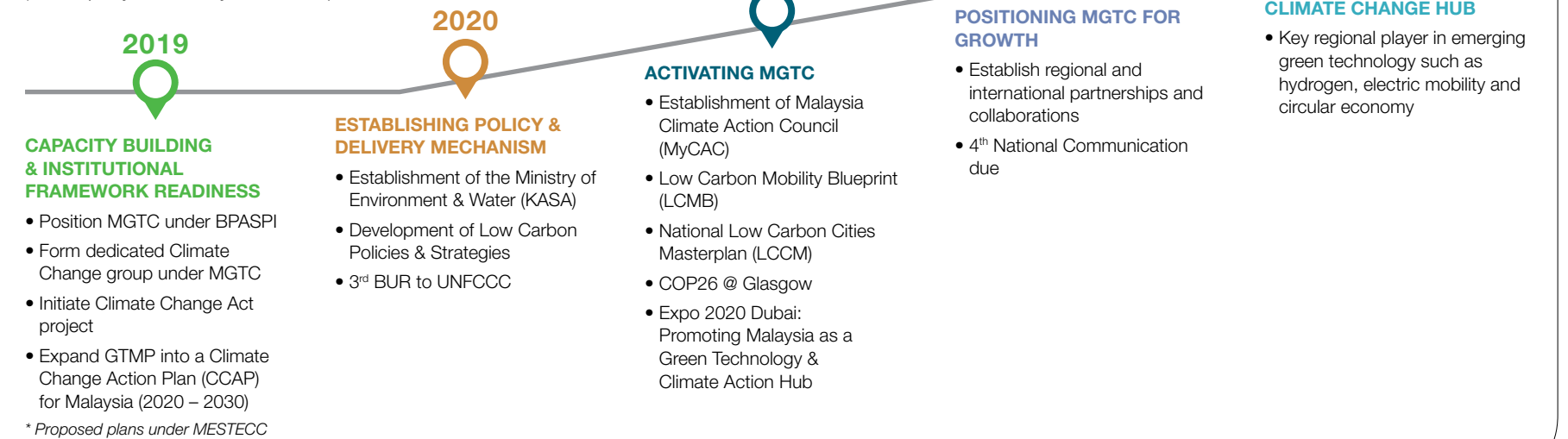
Moving forward, the GTMP will be the key reference outlining the focus of green technology development in Malaysia, anchoring on outcome-approach to deliver a high socio-economic and environmental impact.

- 11th Malaysia Plan 2016- 2020 (RMK11)
A strategic thrust includes pursuing green growth for sustainability and resilience. Its focus areas are strengthening the enabling environment, promoting sustainable consumption and production, conserving natural resources, and strengthening resilience against climate change and natural disasters.
- MGTC's 5-Year Strategic Plan (2018 – 2022)
MGTC, then GreenTech Malaysia, formulated a 5-Year Strategic Plan which included a Green Culture component, thus widening its scope beyond the industry to include the Rakyat.

MGTC's Transformation Journey towards being the ASEAN Hub on Green Technology & Climate Action

Objective

Transforming Malaysian Green Technology Corporation to the Malaysian Green Technology and Climate Change Centre (MGTC) (a Company Limited by Guarantee)



2019

CAPACITY BUILDING & INSTITUTIONAL FRAMEWORK READINESS

- Position MGTC under BPASPI
- Form dedicated Climate Change group under MGTC
- Initiate Climate Change Act project
- Expand GTMP into a Climate Change Action Plan (CCAP) for Malaysia (2020 – 2030)

* Proposed plans under MESTECC

2020

ESTABLISHING POLICY & DELIVERY MECHANISM

- Establishment of the Ministry of Environment & Water (KASA)
- Development of Low Carbon Policies & Strategies
- 3rd BUR to UNFCCC

2021

ACTIVATING MGTC

- Establishment of Malaysia Climate Action Council (MyCAC)
- Low Carbon Mobility Blueprint (LCMB)
- National Low Carbon Cities Masterplan (LCCM)
- COP26 @ Glasgow
- Expo 2020 Dubai: Promoting Malaysia as a Green Technology & Climate Action Hub

2022

POSITIONING MGTC FOR GROWTH

- Establish regional and international partnerships and collaborations
- 4th National Communication due

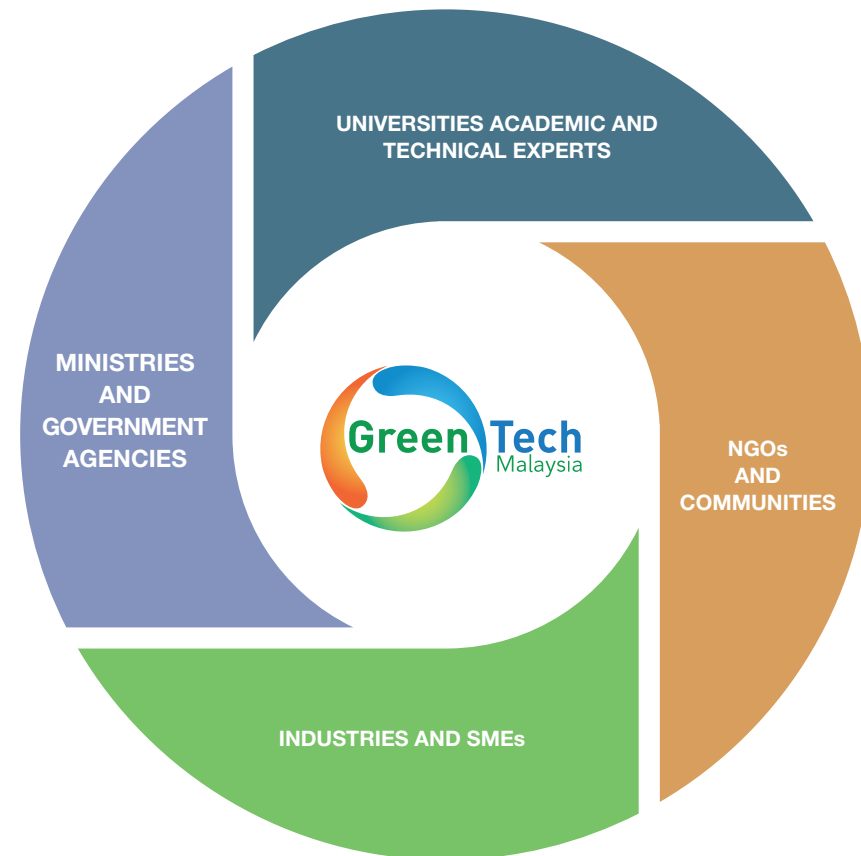
2023

ASEAN GREEN TECHNOLOGY & CLIMATE CHANGE HUB

- Key regional player in emerging green technology such as hydrogen, electric mobility and circular economy

STRATEGIC REVIEW

To support this transformation journey, a Collaborative Network was set up. Functioning as a one-stop resource centre for climate change, it also aims to tap on the country's talent and expertise.



- [Shared Prosperity Vision 2030 \(WKB2030\)](#)

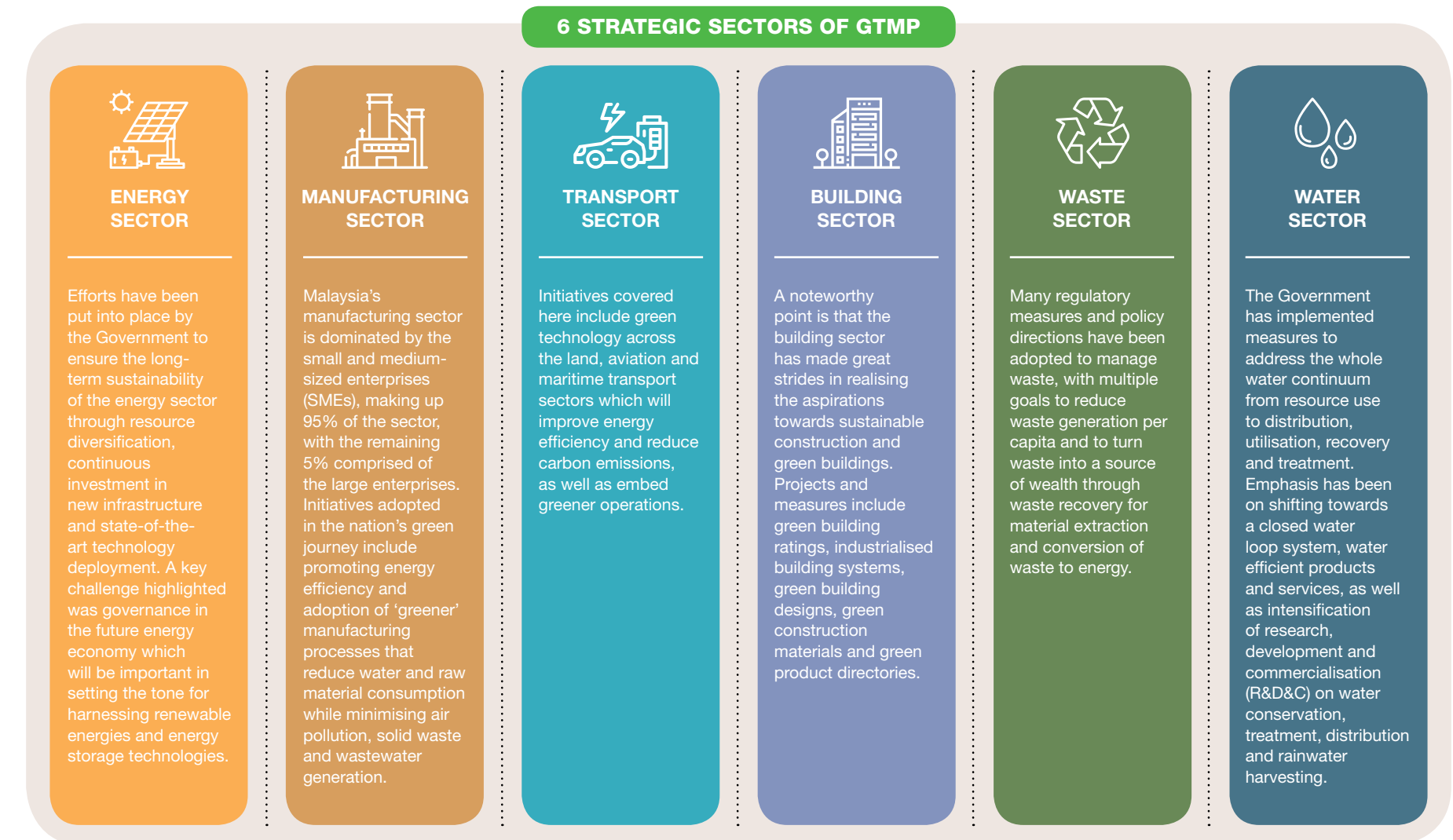
This commitment is aimed at decreasing the poverty line within Malaysia's multiracial community. As an enabler, MGTC will strengthen its support to green technology industries to boost the country's socio economy.

- [National Climate Change Policy](#)

This national policy provides the framework to mobilise and guide government agencies, industry, community as well as other stakeholders and major groups in addressing the challenges of climate change in a holistic manner.

STRATEGIC REVIEW

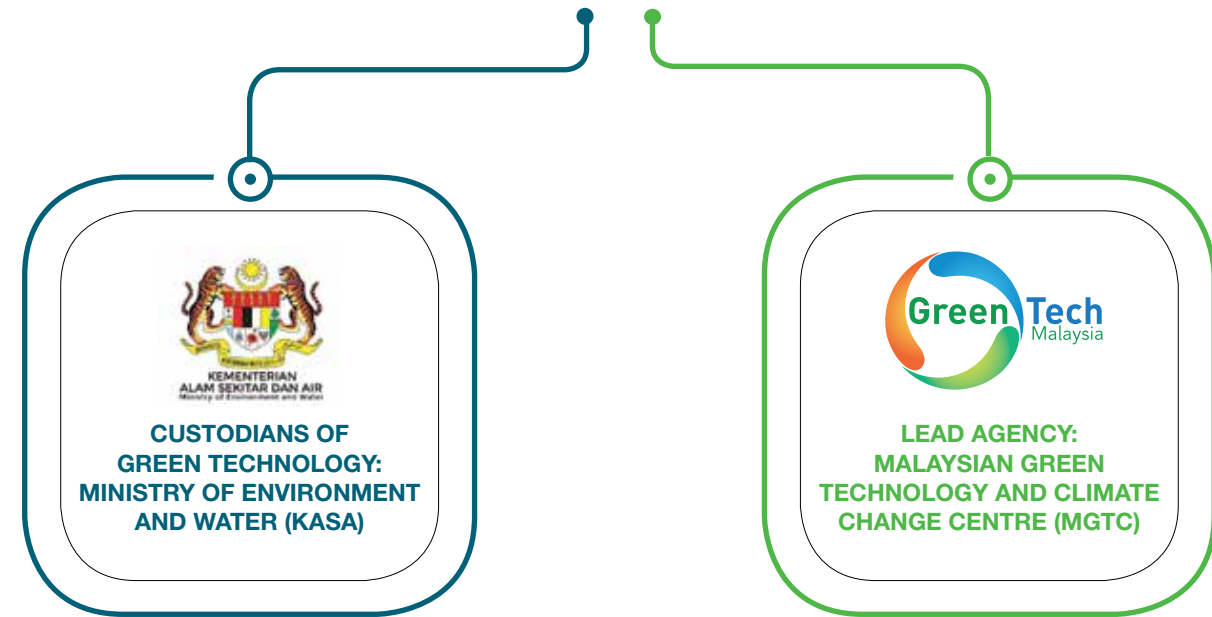
Moving forward, in anticipation of the 12th Malaysia Plan (2021 – 2025), GTMP will focus on 6 strategic sectors:



As an affirmation of support, the top 30 public listed companies which contribute to about 15% of the national Growth Domestic Product (GDP) have committed to sustainability practices in their business operations.

STRATEGIC REVIEW

INSTITUTIONAL ARRANGEMENTS



CUSTODIANS OF GREEN TECHNOLOGY: MINISTRY OF ENVIRONMENT AND WATER (KASA)

The Government has been forward looking to recognise the importance for Malaysia to embrace green technology, both on an international and domestic front.

Malaysia is a signatory member of various international agreements such as the pivotal Conference of Parties to the United Nations Framework Convention on Climate Change (2009) and the path-breaking Paris Agreement (2015). By doing so, it has positioned itself as a contributory member for global sustainable development.

At a local level, Malaysia's environmental focus commenced in 1974 under the umbrella of the Ministry of Local Office and Environment. To meet with the fast-paced demands of the environment, it has evolved over the decades, moving across a series of transformations to its current portfolio under the Ministry of Environment and Water (KASA).




STRATEGIC REVIEW

LEAD AGENCY: MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE (MGTC)

One of Malaysia's first pivotal steps in mapping out its journey in green technology was to establish an overall coordinating agency in 2010. To meet the rapidly evolving environment, this agency was subsequently refined into the present-day Malaysian Green Technology and Climate Change Centre (MGTC). Its headquarters in Bandar Baru Bangi is strategically located on the outskirts of Putrajaya, the country's administrative centre.

As the lead agency under KASA, MGTC is mandated to drive the country's green technology by introducing various policies, programmes and incentives to advocate the use of green technology in key economic sectors within the country.

Acting as a catalyst for green economic growth, MGTC's plays a tripartite role in the nation's overall development:

- 
1 GREEN GROWTH
 Mainstreaming Malaysia's green economy through green products and service expansion programmes
- 
2 CLIMATE CHANGE MITIGATION
 Driving climate change mitigation actions such as advocacy for energy efficiency and renewable energy, low carbon urban programmes and low carbon mobility
- 
3 CLIMATE CHANGE ADAPTATION
 Cultivating a green lifestyle through publicity and awareness programmes across the government and private sectors

Operationally, MGTC's key function is designed to:



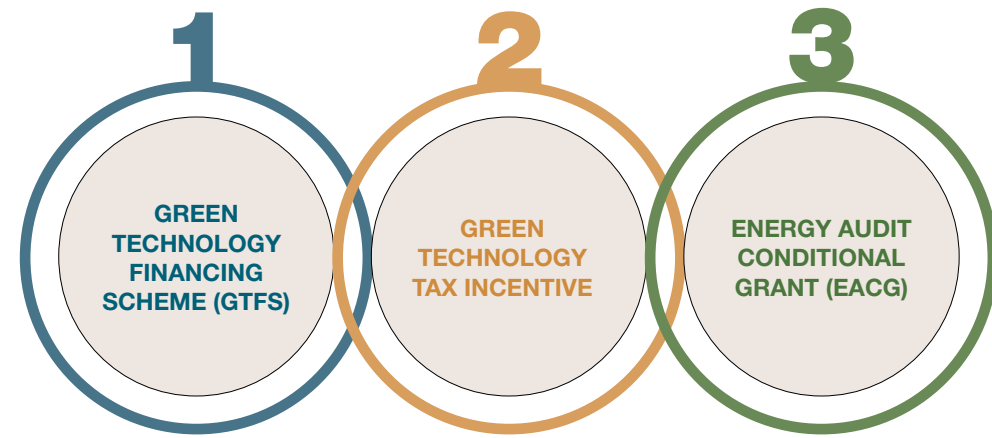
STRATEGIC REVIEW

2 STRATEGIC THRUST
CONDUCTIVE ENVIRONMENT

THE GOVERNMENT HAS MADE SIGNIFICANT STRIDES IN PROMOTING GREEN TECHNOLOGY USING A MULTI-PRONGED APPROACH. IT HAS HEIGHTENED VISIBILITY AND IMPROVED ACCESS TO GREEN ALTERNATIVES, IN ADDITION TO OFFERING ATTRACTIVE FINANCIAL INCENTIVES TO MOTIVATE GREENER PROCUREMENT PREFERENCES. THE GOVERNMENT LEADING THE WAY IN ADOPTING GREEN PROCUREMENT CRITERIA WILL SERVE AS A CATALYST IN SHAPING PRODUCTION AND CONSUMPTION PATTERNS FOR SUSTAINABLY SOURCED PRODUCTS AND SERVICES.

GREEN FINANCIAL INCENTIVES

To further stimulate introduction and implementation of green technology, three financial incentive programmes are offered:



1 GREEN TECHNOLOGY FINANCING SCHEME (GTFS)

GTFS offers producers and users of green technology a low-cost loan scheme to facilitate the financing of green technology projects. It is backed by a government guarantee of 60% of the financed amount with a 2% per annum rebate on the profit rate charged by financial institutions.

To access this financial incentive, organisations need to satisfy the five prerequisites of green technology, which is to:



STRATEGIC REVIEW

HIGHLIGHTS

In support of this initiative, GTFS 2.0 was announced in 2019 with a RM2.0 billion allocation. Additional criteria and sectors were implemented in the scheme, the latter including Energy Service Companies (ESCOs) and expansion to the manufacturing sector.

To date, a total of 112 projects were approved under the scheme, receiving a total of RM1.92 billion in financing from 28 participating financial institutions.

112 PROJECTS APPROVED

RM1.92 BIL FINANCING AMOUNT

28 FINANCIAL INSTITUTIONS

Sector	Projects with Secured Financing	Financing Amount Offered (RM million)	Green Investment (RM million)	GHG Emission Reduction (thousand tCO ₂ eq/ yr)	Green Jobs
Energy Efficiency	1	28	32	38	6
Renewable Energy	109	1,884	2,340	1,274	470
Waste	2	6	8	3	15
Water	-	-	-	-	-
Transport	-	-	-	-	-
Building	-	-	-	-	-
Manufacturing	-	-	-	-	-
TOTAL	112	1,918	2,380	1,315	491

Financing Amount Offered (RM)	Number of Projects
Above RM100 million	5
RM 50 million - RM100 million	5
RM 25 million - RM 50 million	10
RM 1 million - RM 25 million	65
RM 500,000 - RM 1 million	26
Below RM 500,000	1
TOTAL	112

States	Number of Projects
Perak	28
Johor	26
Selangor	14
Kedah	11
Pulau Pinang	8
Pahang	7
Negeri Sembilan	6
Terengganu	4
Melaka	3
Sabah	3
Kelantan	1
Perlis	1
TOTAL	112

STRATEGIC REVIEW

2 GREEN TECHNOLOGY TAX INCENTIVE

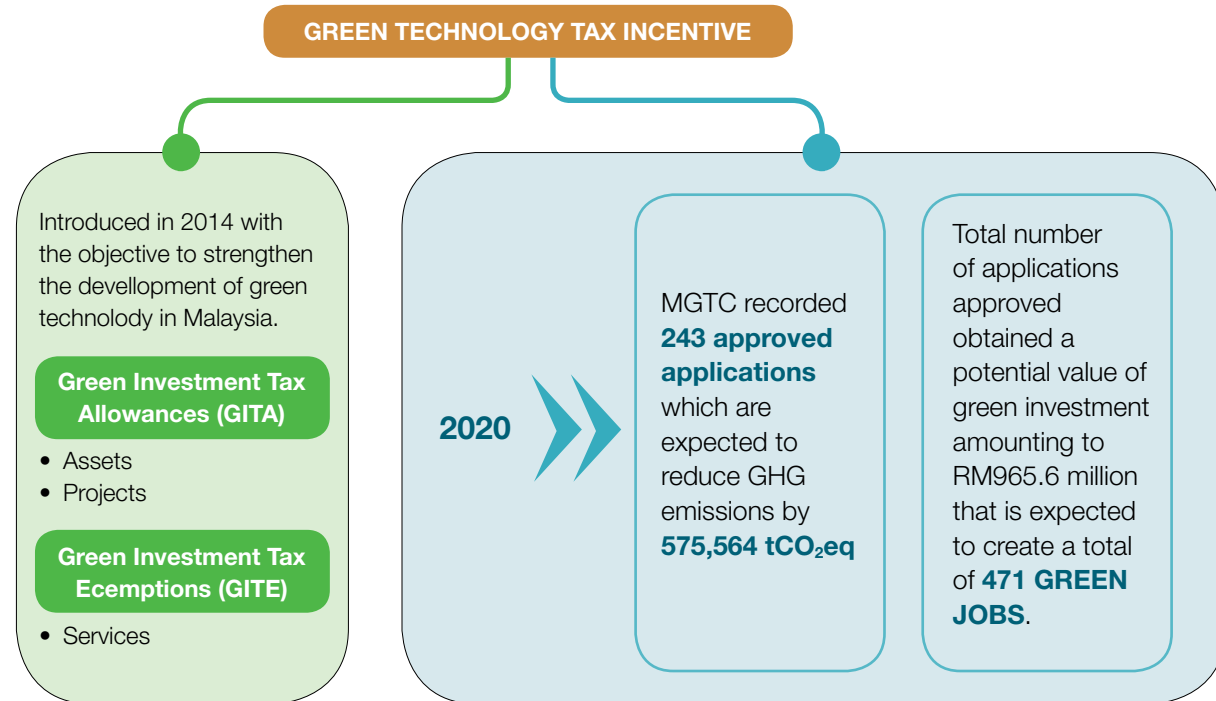
The introduction of the Green Technology Tax Incentive in 2014 contributed to the progressive development of green technology in the country.

An added feature is that it provides the industry an option of two available incentives. Companies seeking to acquire qualifying green technology assets listed under the MyHIJAU Directory or those undertaking qualifying green technology projects for business or own consumption may apply for the Green Investment Tax Allowance (GITA).

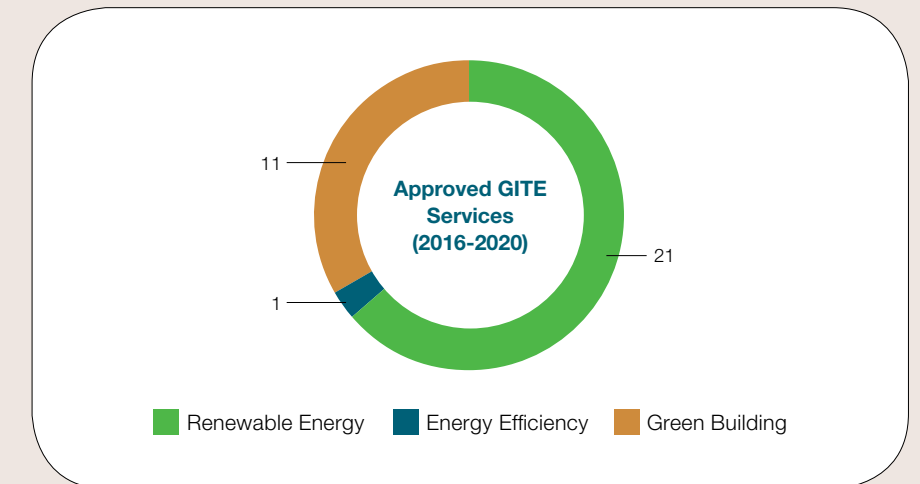
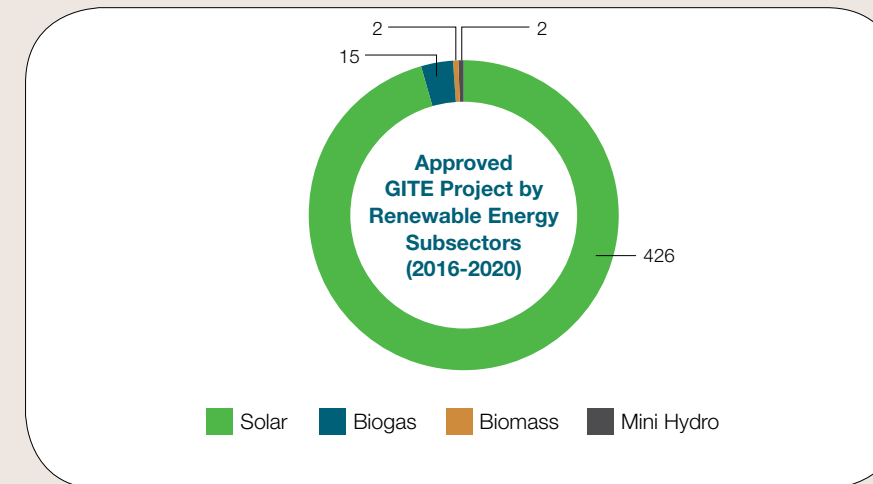
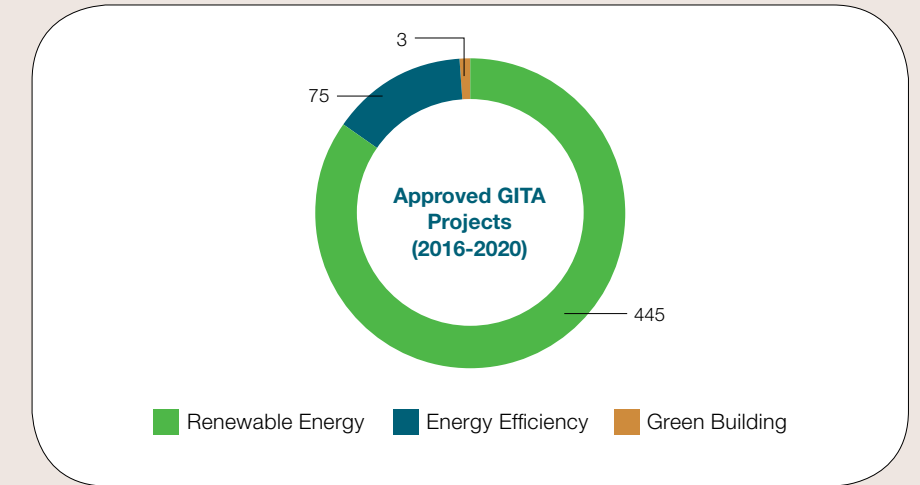
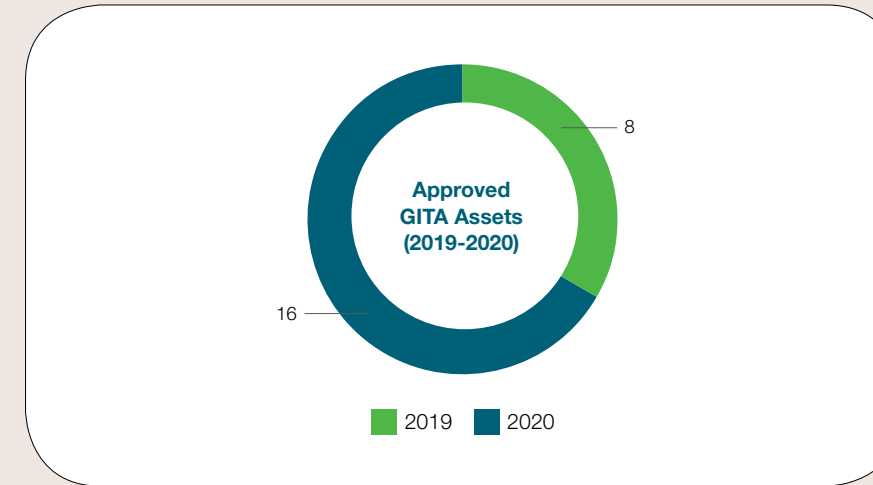
A Green Income Tax Exemption (GITE) is available for qualifying green technology service provider companies listed under the MyHIJAU Directory.

HIGHLIGHTS

In 2020, MGTC approved 243 applications which are expected to reduce GHG emissions by 575,564 tCO₂eq emissions. The approved applications have a potential value of green investment amounting to RM965.6 million and is expected to create a total of 471 green jobs.



STRATEGIC REVIEW



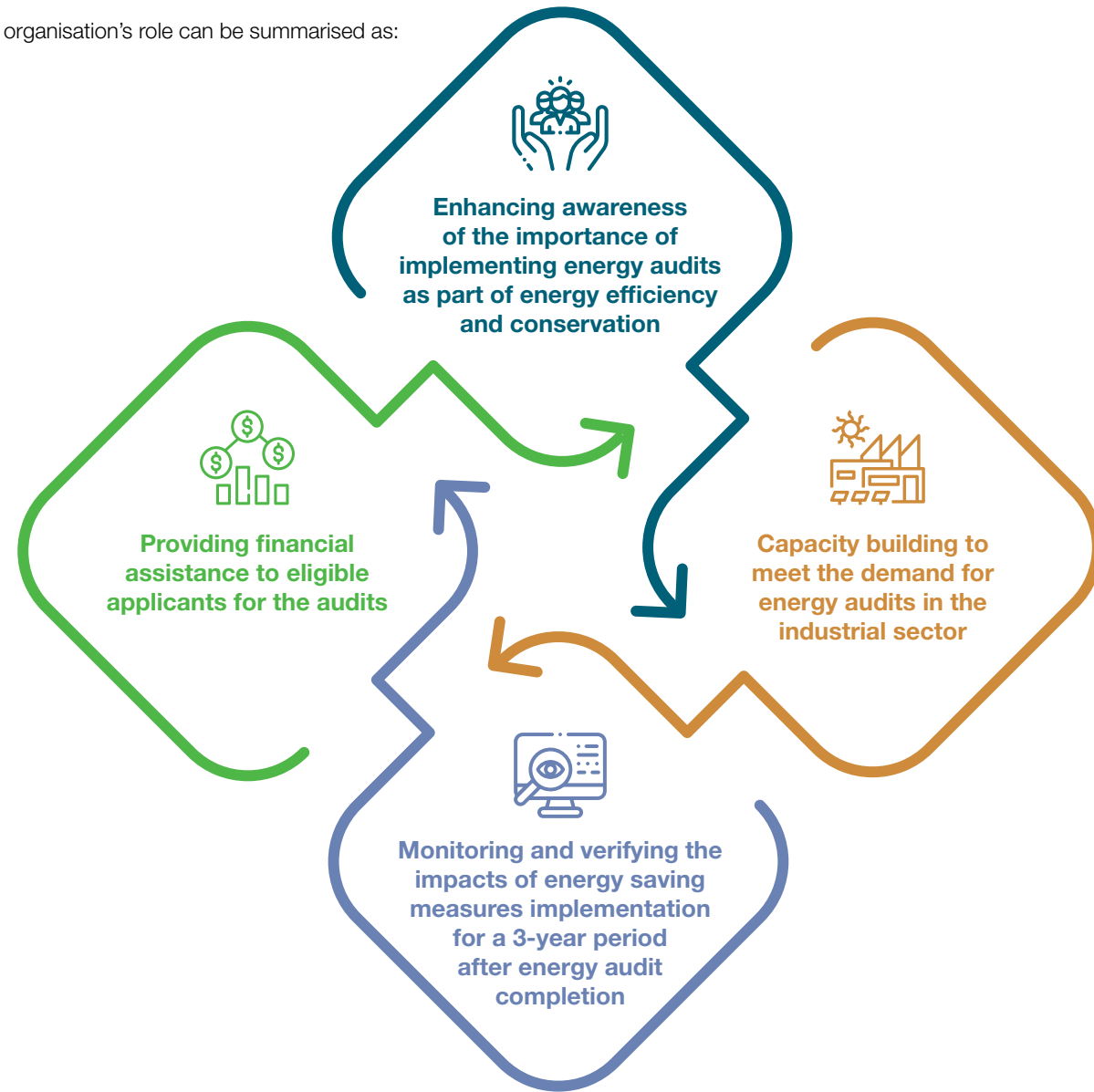
STRATEGIC REVIEW

3 ENERGY AUDIT CONDITIONAL GRANT (EACG)

In 2016, the industrial sector in Malaysia proved to be the second largest energy consumer. With consumption recorded at 28%, it signalled a strong need to focus attention on and ensure a more efficient usage of energy.

It was hence timely that the EACG for the industrial sector was introduced under the 11th Malaysia Plan to promote energy efficiency. The Ministry of Energy and Natural Resources (formerly known as MESTECC and KeTTHA) appointed MGTC as the implementing agency to manage, promote, conduct training, monitor and verify the project effectiveness.

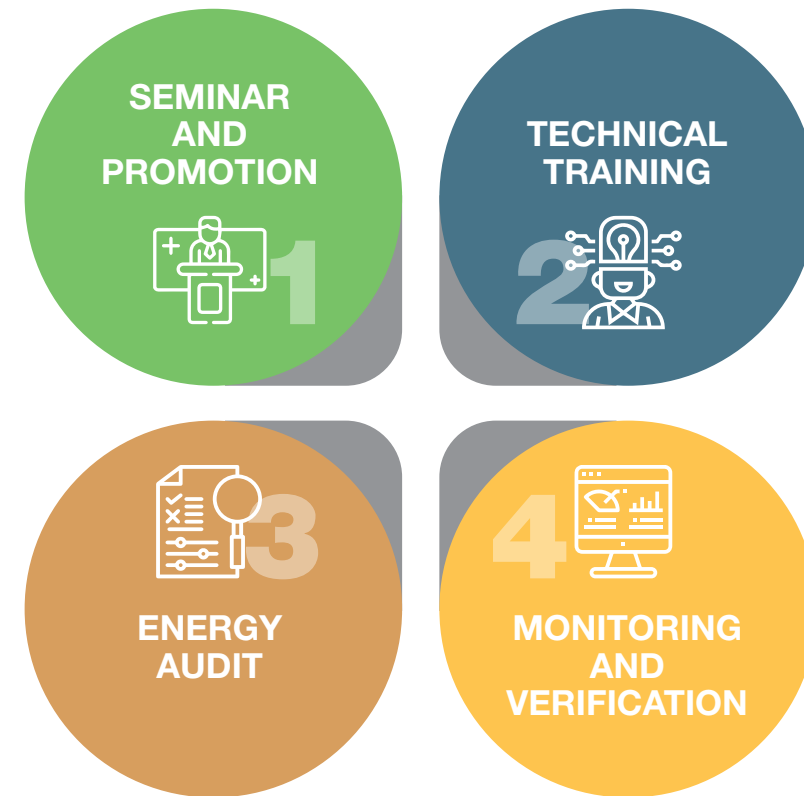
The organisation's role can be summarised as:



STRATEGIC REVIEW

The project provided conditional grants for industries to appoint Energy Services Company (ESCO) registered with Energy Commission to conduct energy audits at their installations. Industries under the Efficient Management of Electrical Energy Regulations 2008 (EMEER 2008) or industries consuming electrical energy of at least 100,000 kWh per month for six consecutive months were eligible to apply for the grant.

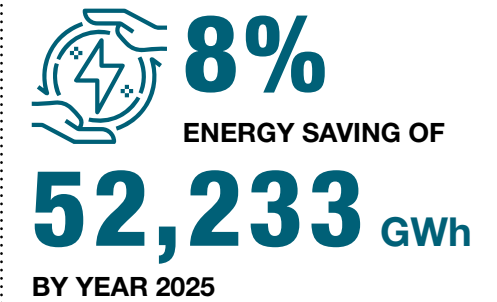
The project consists of four main activities:



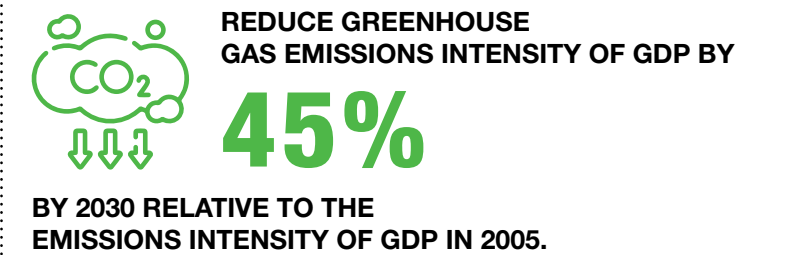
Monitoring and verification is ongoing until mid-2021 where each grant recipient is required to submit a report every 6 months for a 3-year period after the completion of the energy audit. Other activities have been completed in year 2018.

The project impact directly contributes to the:

NATIONAL ENERGY EFFICIENCY ACTION PLAN (NEEAP)



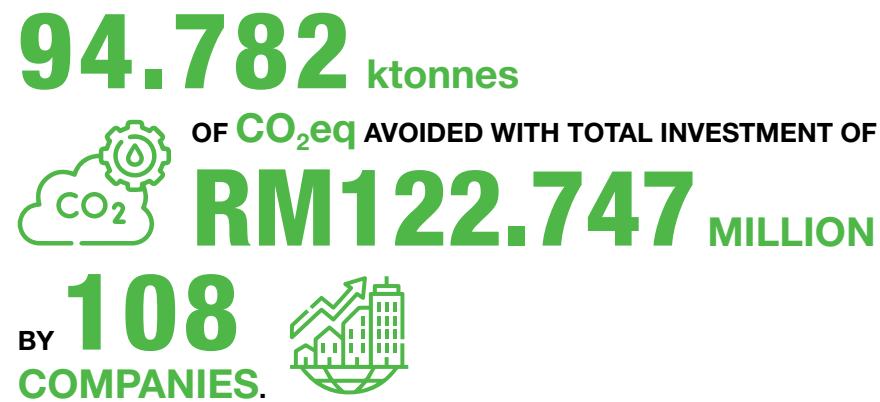
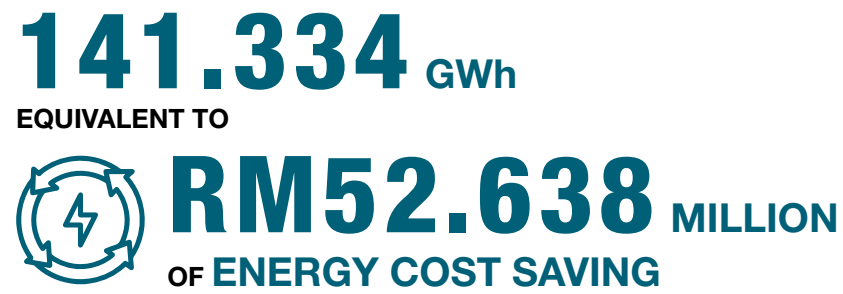
MALAYSIA'S NATIONALLY DETERMINED CONTRIBUTION



STRATEGIC REVIEW

HIGHLIGHTS

Total energy savings for the period of July 2017 – December 2020



Based on reporting cycles for July – December 2019 and January – June 2020 (reporting cycles monitored in year 2020), the total energy savings is 47.853 GWh, equivalent to RM17.874 million of energy cost savings and 33.160 ktonnes of CO₂eq avoided with total investment of RM18.211 million by 108 companies.

Energy Savings (kWh)	Energy Savings (kWh)	Energy Savings (kWh)	Cost Savings (RM)	Investment Cost (RM)	CO ₂ Avoided (Tonne/Year)	No. of Companies
July – December 2017	January 2018	1,949,644.90	679,278.77	4,606,545.70	1,353.05	2
January – June 2018	July 2018	24,347,637.44	8,817,747.16	12,310,071.64	16,264.60	90
July – December 2018	January 2019	26,980,527.99	8,810,142.49	18,005,696.14	16,114.33	108
January – June 2019	July 2019	22,682,650.93	10,117,568.74	14,856,740.61	15,730.19	108
July – December 2019	January 2020	30,724,983.91	12,392,396.06	10,892,328.56	21,320.72	108
January – June 2020	July 2020	17,128,329.26	5,481,801.24	7,319,615.50	11,839.74	108
July – December 2020	January 2021	17,520,913.02	6,285,387.72	54,730,209.68	12,159.51	108
Total (July 2017 – December 2020)	-	141,334,867.45	52,638,088.16	122,747,617.83	94,782.14	108

Under the Malaysia Budget 2021, the Government reaffirmed its support for the Green Economy with an allocation of RM2 billion aiming to further attract the private sector, particularly the manufacturing and services industry to participate in green technology.

The Government has introduced a similar programme under the 12th Malaysia Plan with SEDA Malaysia as the implementing agency for both commercial and industrial sectors.

STRATEGIC REVIEW

GREEN CERTIFICATION

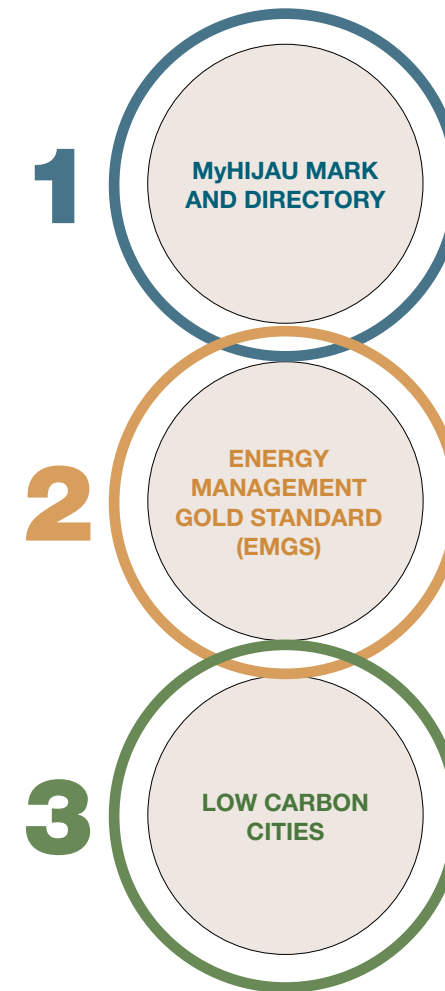
MGTC is the authorised body responsible for the nation's green technology standards and certifications and manages this at city, organisation and product/service levels. It oversees certifications for the following:



1 MyHIJAU MARK & DIRECTORY

MyHIJAU Mark, introduced in 2015, is Malaysia's official green recognition scheme endorsed by the Government of Malaysia, bringing together certified products and services that meet local and international environmental standards under one single, recognisable mark. It includes an online directory which allows convenient access to the public.

MyHIJAU Mark recognition serves to:



- Provide a simplified way for consumers to distinguish genuine green products and services through the usage of an established and trusted logo
- Enable a comprehensive online platform for businesses to promote their green products and services to new markets
- Encourage Malaysians to make informed decisions about their shopping habits that will lead to a cleaner, greener future
- Inspire more companies to attain this authorised environmental certification and capitalise on the established MyHIJAU Mark and Directory listing

Besides promoting the MyHIJAU Mark and Directory, MGTC's responsibility covers the provision of business advisory, verification and monitoring of certified green products and services. Its scope also covers verifying and registering products and services already certified by accredited certification bodies or testing facilities.

Tax incentives for the use of green products was granted in 2014. This has since expanded to include the Malaysia Sustainable Palm Oil Certification Scheme and Green Building Certification as a means to attract eco-friendly agricultural products and green spaces.

The launch of the MyHIJAU mobile apps in 2018 enabled consumers to download the MyHIJAU Directory for their added convenience.

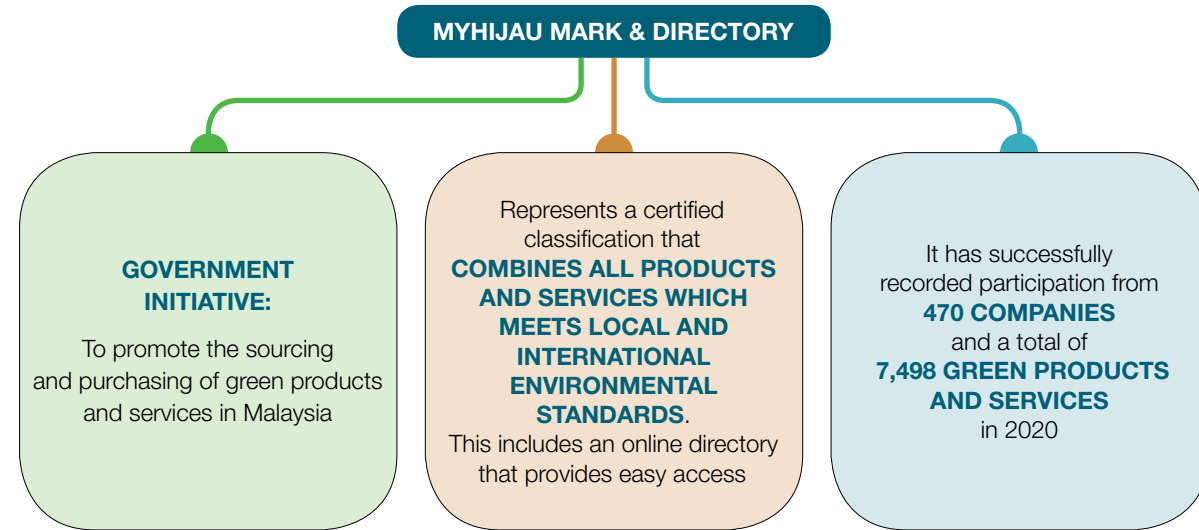
STRATEGIC REVIEW

HIGHLIGHTS

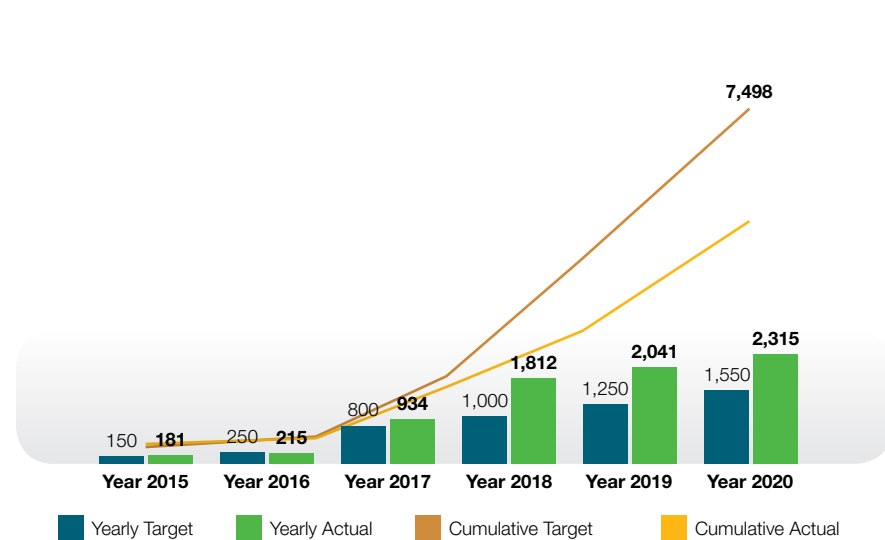
AS OF 2020, A TOTAL OF

7,498
GREEN PRODUCTS AND SERVICES

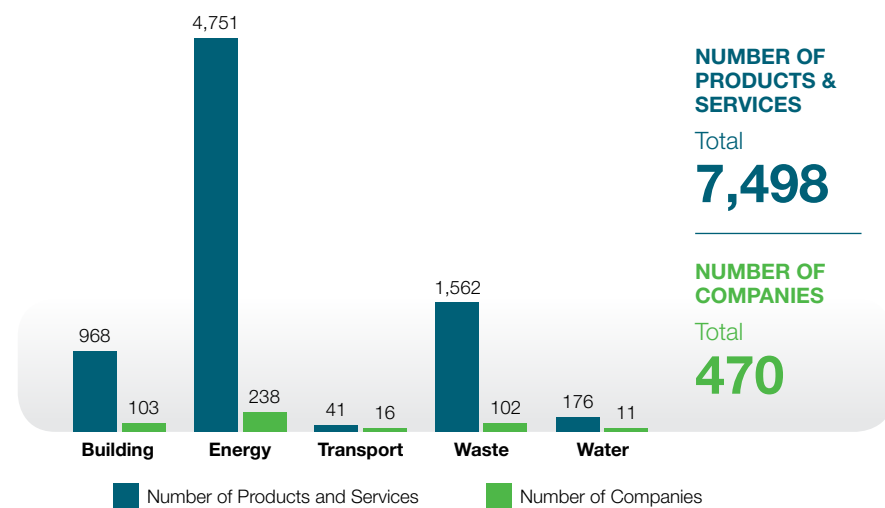
FROM
470
PARTICIPATING COMPANIES
HAVE BEEN SUCCESSFULLY REGISTERED.



MyHIJAU Mark Registration Until 31 December 2020



Number of Green Products and Services Registered under MyHIJAU Mark by sector, 2015-2020



STRATEGIC REVIEW

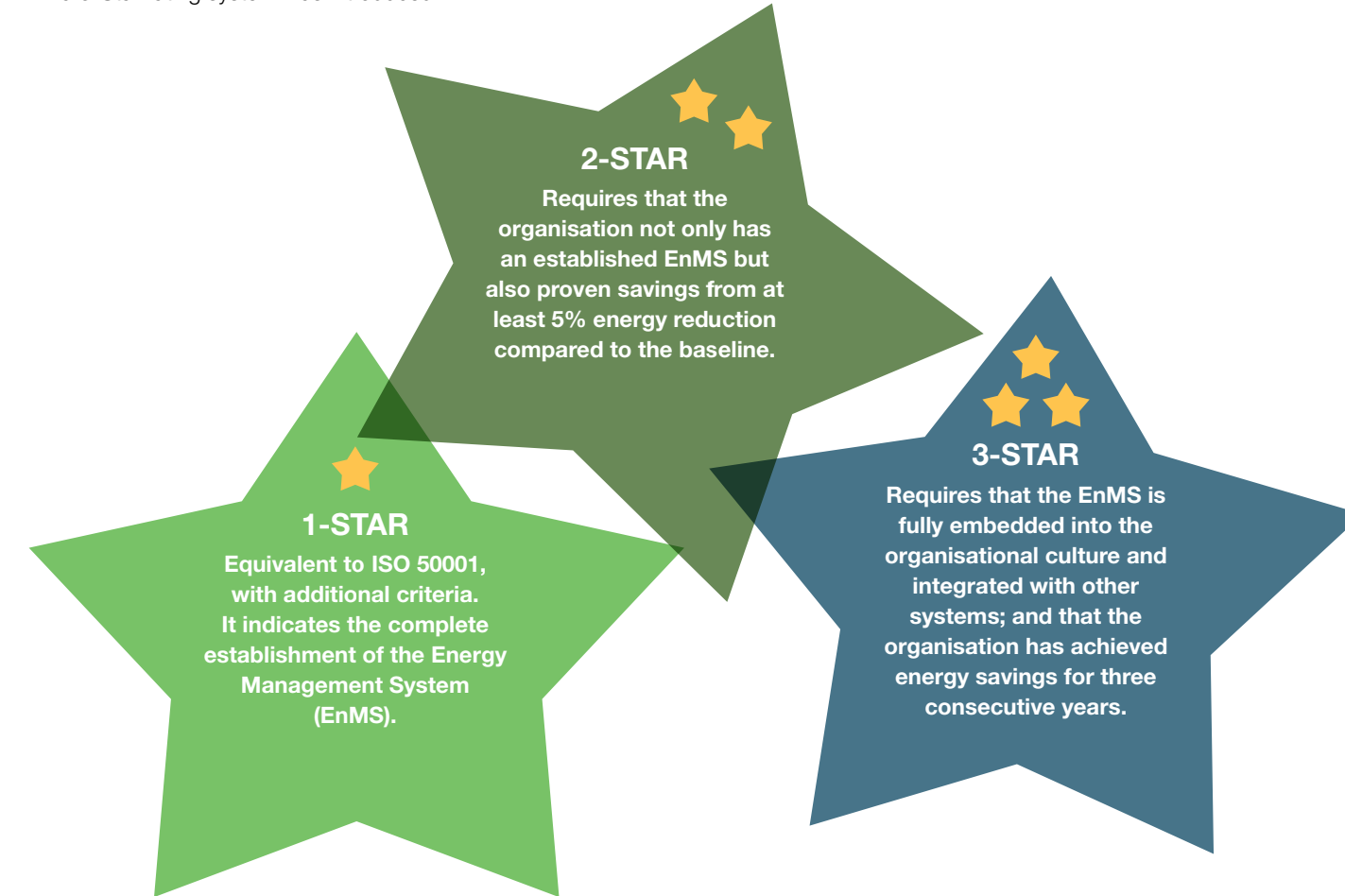
2 ENERGY MANAGEMENT GOLD STANDARD (EMGS)

The ASEAN Energy Management Scheme (AEMAS) which has been initiated by the ASEAN Centre of Energy (ACE) since 2010 is a regional recognition with the main purpose of managing and reducing energy consumption and carbon dioxide emissions in the ASEAN region while promoting best practices in energy management.

AEMAS was launched officially in July 2011 and is the first regional certification, specifically developed for Southeast Asia with funding from the European Union. MGTC was appointed as the AEMAS Country Coordinator and Certification Body on behalf of ACE to promote, facilitate and process the applications made by the end-users in Malaysia.

Energy Management Gold Standard (EMGS) is a recognition given under the AEMAS, to end-users who have successfully implemented a sustainable energy management system according to the scheme's requirement.

As a means to measure an organisation's current performance and also motivate them to further upgrade their standards, a 3-Star rating system was introduced:



STRATEGIC REVIEW

HIGHLIGHTS

Driven by strong efforts, various milestone achievements were recorded. The Institut Jantung Negara (IJN) was the first in the Malaysian health sector to be awarded the EMGS 3-Star rating, the highest possible rating. Another notable achievement was Universiti Teknologi Malaysia (UTM) being the first educational institution in Malaysia to be awarded the EMGS 3-Star rating.

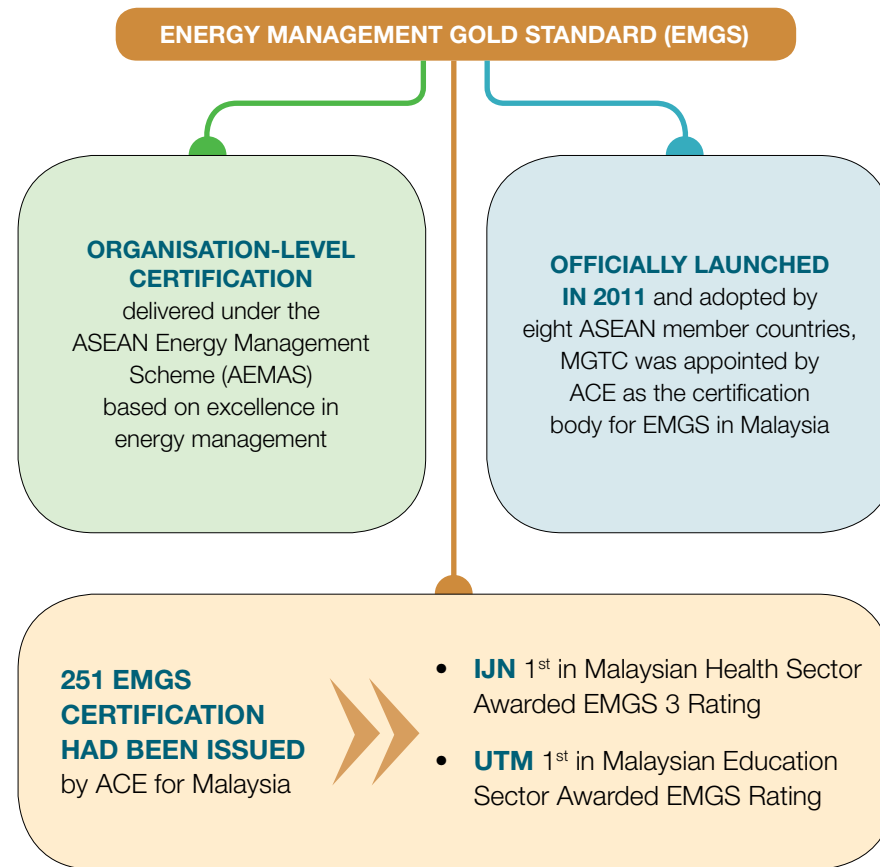
As of 2020, a total of 6 organisations have achieved 3-Star rating, with 87 organisations accorded 2-Stars and a further 163 organisations with 1-Star rating. Most of the organisations come from the healthcare facilities under the Ministry of Health.



TO DATE, THE EMGS PROGRAMME HAS HELPED TO MITIGATE

68 ktonnes OF CO₂e ANNUALLY COMPARED TO RESPECTIVE ENERGY BASELINES, WITH A SAVINGS OF

RM44 MILLION ANNUALLY.



STRATEGIC REVIEW

3 LOW-CARBON CITIES

Driven by the understanding that cities account for 70% of GHG emissions globally, MGTC initiated the LCCF, a holistic sustainable development, aiming to accelerate the transformation towards designated low carbon zones in state capitals and major cities within Malaysia.

MGTC assists with capacity building for local authorities to work toward reducing GHG emissions via energy and water efficiency, low carbon mobility, reduction in waste to landfills and increase green spaces. They will be guided with the necessary systems and tools to develop strategic low carbon action plans, stakeholder engagement and deliver low carbon solutions.

The LCCF is guided by 3 primary objectives, which are:



Application of the framework is an ongoing process undertaken in three phases:



Upon completion of Phase III, the initiatives undertaken are reviewed to measure the CO₂ reduction achieved. An assessment and recognition system is used to evaluate local authorities' efforts, based on the CO₂ reduction achieved in designated zones.

Since then, MGTC has been working alongside local authorities to establish Low Carbon Zones in State Capitals and major urban areas across the country. Such zones will have reduced emissions from energy and water consumption of buildings and common areas, reduced emissions from petrol and diesel private vehicles used and reduced emissions from the generation of waste that end up in landfills.

STRATEGIC REVIEW

HIGHLIGHTS

OUT OF THE 154 LOCAL AUTHORITIES (PBT) IN THE COUNTRY,

64 PBTs

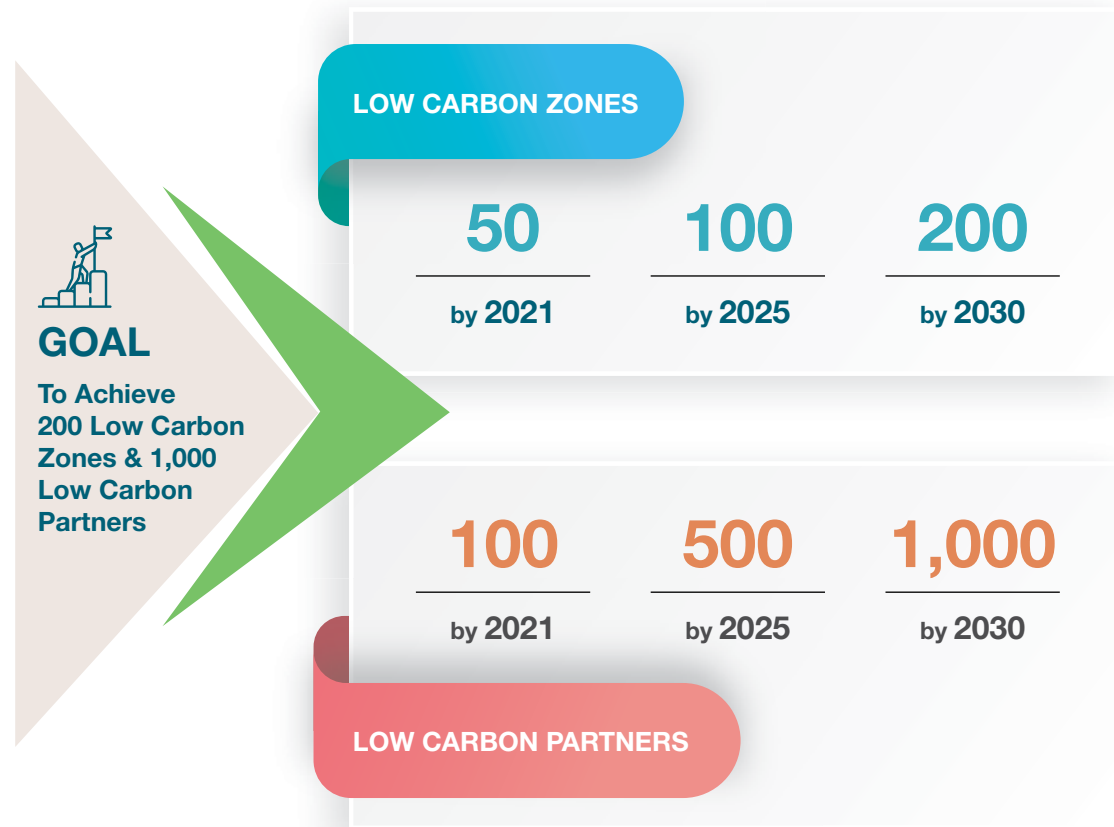
HAVE BEEN EXPOSED TO THE LCCF VIA TRAINING SESSIONS AND CAPACITY DEVELOPMENT PROGRAMMES, RESULTING IN

30 PBTs

HAVING INITIATED VARIOUS LOW CARBON INITIATIVES.

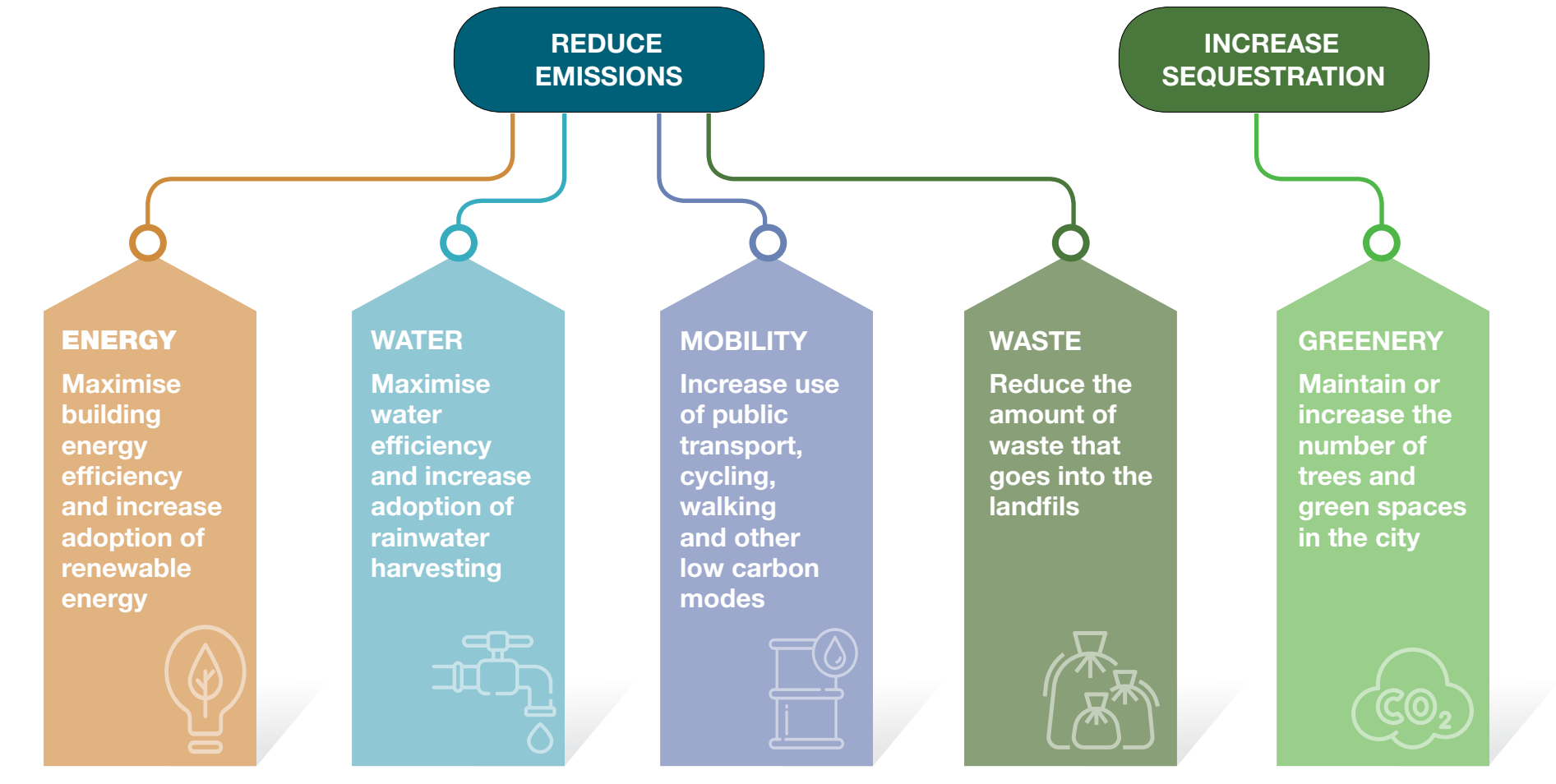
LOW CARBON CITIES 2030 CHALLENGE (LCC2030C)

In 2019, the LCC2030C was launched by the then Minister of Energy, Science, Technology, Environment and Climate Change (MESTECC) to accelerate the transformation of Malaysian cities into low carbon cities. Its target is to realise 200 Low Carbon Zones and 1,000 Low Carbon Partners by 2030.



STRATEGIC REVIEW

Since then, MGTC has been working alongside local authorities to establish Low Carbon Zones in State Capitals and major urban areas across the country. Such zones will have reduced emissions from energy and water consumption of buildings and common areas, reduced emissions from petrol and diesel private vehicles used and reduced emissions from the generation of waste that end up in landfills.



STRATEGIC REVIEW

HIGHLIGHTS

As at end 2020, overall enrolment for the LCC2030C stood at 24 Low Carbon Zones with 45 Low Carbon Partners. Through this initiative, the amount of carbon reduction recorded was 148,572 tonnes CO₂ emissions with total carbon sequestration of 43,683 tonnes CO₂.

24
LOW CARBON ZONES

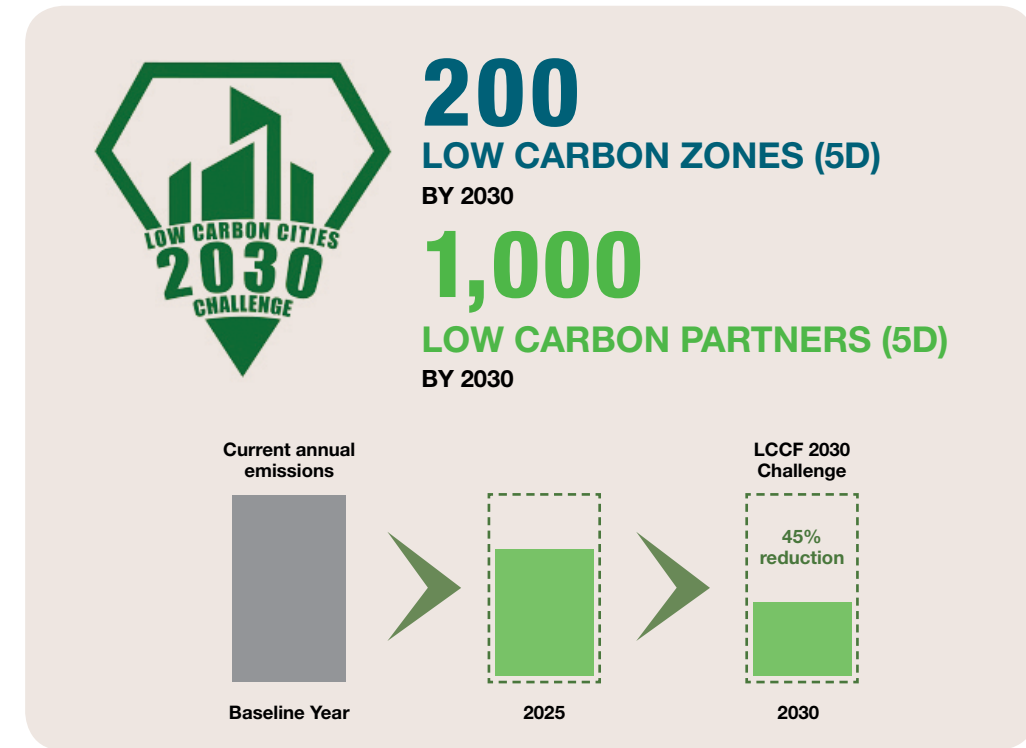
45
LOW CARBON PARTNERS

CARBON REDUCTION

148,572
TONNES CO₂ EMISSIONS

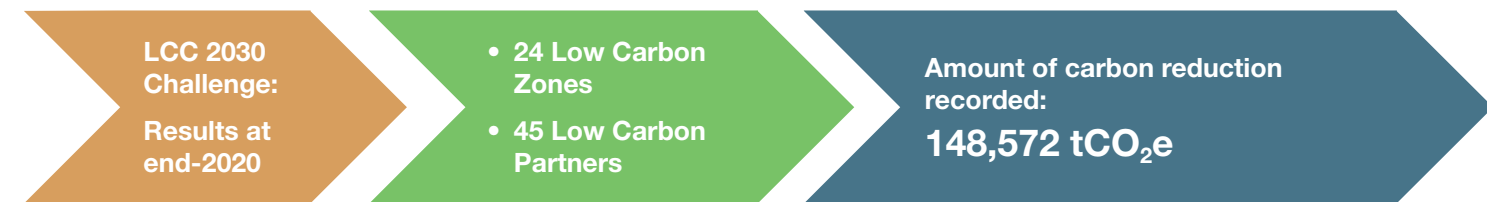
43,683
TONNES CO₂ TOTAL CARBON SEQUESTRATION

MGTC's efforts to drive awareness on low carbon cities is gaining momentum, with qualifying cities being accorded the Diamond Recognition and Provisional Certificate in recognition of their strong effort.



LOW CARBON CITIES FRAMEWORK (LCCF)

The LCCF was developed to assist local authorities support holistic sustainable development to achieve the Government's emissions target by 2030



STRATEGIC REVIEW

LCCF WEBINAR ('JADIKANNYA REALITI')



STRATEGIC REVIEW

GREEN PROCUREMENT

Green Procurement is defined as procurement of products and services that takes into consideration environmental criteria and standards for protecting the environment and natural resources, which minimises the negative effects of human activities.

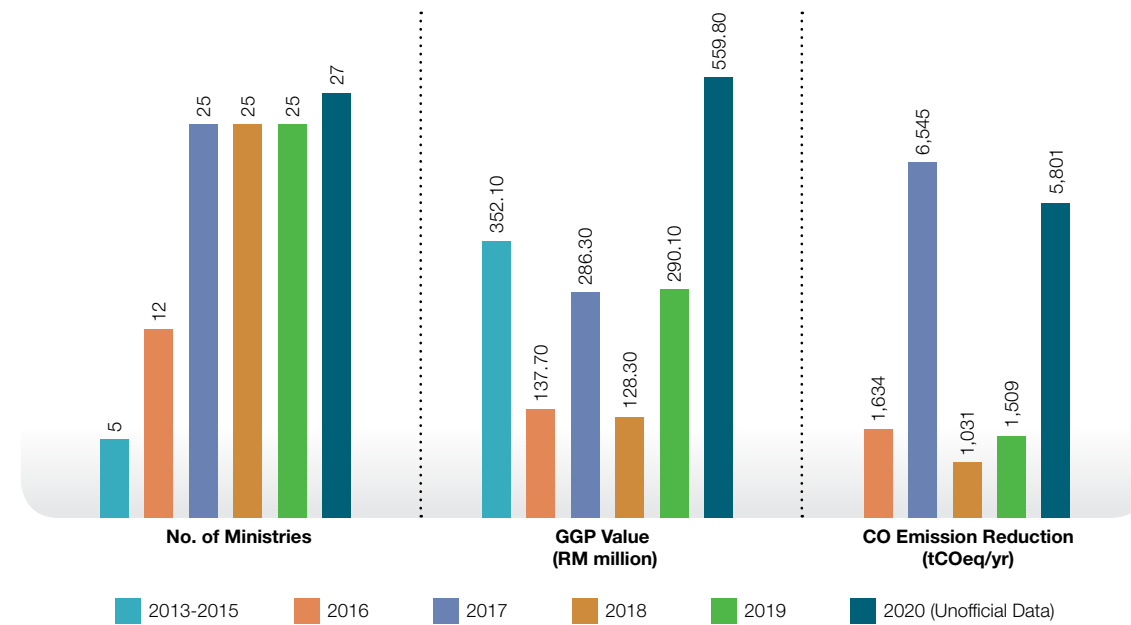
GOVERNMENT GREEN PROCUREMENT (GGP)

Government procurement in Malaysia plays a crucial role as a catalyst for socioeconomic development as it represents about 12-15% of Gross Domestic Product (GDP). Hence, it is only natural that the Government is playing a leading role in promoting and driving a green growth and green economy. Launched in 2013, the GGP is being championed by the Ministry of Finance (MOF) and Ministry of Environment and Water (KASA) with MGTC as the implementing agency.

In 2013, the Polis Diraja Malaysia (PDRM) gained the distinction of being the pioneer government agency to embrace GGP. Mapping out a clear roadmap to reduce carbon emission led to the launch of its Green Practices and Green Technology Application Blueprint.

This paved the way for other government agencies to follow. In 2015, MGTC assisted the MOF, the Economic Planning Unit (EPU) and the Ministry of Energy, Green Technology and Water (KeTTHA) in implementing various GGP strategies.

This ultimately led to the entire Malaysian federal ministries adopting the GGP programme in 2017. With this amounting to GGP valued at RM286.3 million, it successfully equated to a CO₂ reduction of 6,545 tCO₂eq emission.



Year	No. of Ministries	GGP Value (RM million)	Percentage (%) on Selected Products and Services	CO Emission Reduction (tCOeq/yr)
2013-2015	5	352.10	Pilot Project	
2016	12	137.70	17.4%	1,634
2017	25	286.30	24.6%	6,545
2018	25	128.30	22.0%	1,031
2019	25	290.10	20.4%	1,509
2020 (Unofficial Data)	27	559.80	29.5%	5,801
Total	-	1,754.30	23.9%	16,519

STRATEGIC REVIEW

In 2020, the GGP Guidelines 3.0 was developed, listing out 40 GGP criteria for products and services. For full information on the list of GGP Product Group, please refer to the Appendices section of this report.



HIGHLIGHTS


In 2020, 10 product groups were endorsed such that the GGP Guidelines now covers a total of 40 product groups.

The product groups currently cover:


1 Electrical Appliances



2 Street Lighting




3 Portable Fire Extinguisher Equipment



4 Landscape Maintenance Services



5 Postal & Courier Services



6 Laundry Services




7 Catering Services




8 Light Vehicles



9 Pest Control Services



10 Solar Energy



STRATEGIC REVIEW

GREEN MARKETPLACE

MGTC is integral in driving the nation's green technology growth, aligning with supply and demand forces, to establish and nurture an effective green marketplace. Stakeholder engagement is an essential component to which MGTC effectively engages via various avenues:



IGEM

Since its inception in 2010, the Malaysian government and business partners have nurtured IGEM's transformation into South East Asia's largest trade event for green technologies and eco solutions. Co-organised by KASA and MGTC, IGEM offers an optimal investment-generating opportunity for solution providers and green energy businesses to capitalise on the fast-expanding ASEAN market by showcasing the latest innovations to policy makers, government organisations, investors and the mass markets.

Over the years, IGEM has created public awareness on green technology and has generated close to RM33 billion in business leads, with 508,000 visitors from over 79 countries.



HIGHLIGHTS

Adopting precautionary measures in light of the ongoing pandemic, the 11th IGEM 2020 was conducted virtually from 19-23 October 2020, attracting 161 exhibitors and over 15,000 visitors from 79 countries. It collaborated with 14 conference partners to produce 55 conference sessions featuring 138 local speakers and 69 international speakers.

The theme, "Energising Sustainability" set the tone for innovation to ensure environmental stability along with economic prosperity. The event proved a resounding success in that its targeted RM1.6 billion business leads have been reinforced with a new projection of RM3.08 billion investment in Renewable Energy (RE), Energy Efficiency (EE), Solar Leasing, Integrated Waste Management, Green Building and manufacturing sectors. The Renewable Energy segment for waste management has gained the highest investment leads of RM1.75 billion (57%), followed by RM814 million (26%) interest in Renewable Energy for mini hydro.

To highlight low carbon awareness, MGTC organised



1. Mainstreaming Green Technology in Malaysia
2. Dissecting Malaysia's GHG Emissions
3. Reducing Carbon Footprint
4. In addition to this, MGTC also organised a conference that attracted more than 600 participants with the following topics:
 - i. Low Carbon Cities: New Normal Webinar
 - ii. Hydrogen Economy Forum
 - iii. Green Financing Conference

As for exhibitions, the MGTC pavilion located in the main hall constantly showcased all sustainable initiatives undertaken by MGTC, which attracted up to 1,156 visitations.

STRATEGIC REVIEW



The Most Honourable Malaysian Prime Minister officiating IGEM 2020

SNAPSHOTS FROM IGEM 2020



A Press Conference with the Honourable Minister of Environment and Water

Virtual Conference Lobby



Conference Secretariat in full concentration

An International Speaker sharing insights

Panel discussion in progress

A Delegate focused on a session

STRATEGIC REVIEW

PARTICIPATION AT GLOBAL PLATFORMS

MGTC's role extends beyond Malaysia's borders in promoting local green products and services. Shouldering this market expansion responsibility, MGTC explores opportunities on global platforms to introduce local companies and facilitate business partnerships.



EXPO 2020 DUBAI
(1 OCTOBER 2021 – 31 MARCH 2022)

In light of the ongoing pandemic, this event, originally scheduled to begin from 20 October 2020, was postponed by a year to 1 October 2021. Reflecting the spirit of continuity, it will still carry the name, 'EXPO 2020 Dubai' with the theme, "Connecting Minds, Creating the Future" and sub-themes of Opportunity, Sustainability and Mobility.

This will be the first world expo held in the Middle East, North Africa and South Asia (MENASA) region. This expo emerges more relevant now than ever as a congregation of nations come together to find solutions to pressing issues facing mankind.

This event presents a unique gathering of human brilliance, remarkable technologies and thought-provoking innovations and will enable global communities to learn, exchange ideas and partner one another for a shared future.

MGTC is the implementing agency for Malaysia's participation in Expo 2020 Dubai, with the Ministry of Science, Technology and Innovation Malaysia (MOSTI) as the lead Ministry to spearhead the country's presence and commitment to global cooperation. Malaysia will be positioned as a dynamic and progressive nation driven by science, technology and innovation as well as being an attractive place to invest in, to engage in business, for education and to simply visit.



STRATEGIC REVIEW

HIGHLIGHTS

The Malaysian exhibition will feature a Net Zero Carbon Rainforest Pavilion under the broad theme of "Energising Sustainability". This will be further segmented into four supporting themes, namely "Energising Today", "Energising Tomorrow", "Energising Harmony" and "Energising Business".

Malaysia's logos to be featured at the Pavilion



Artist's rendering of Malaysia's Pavilion at EXPO 2020 Dubai

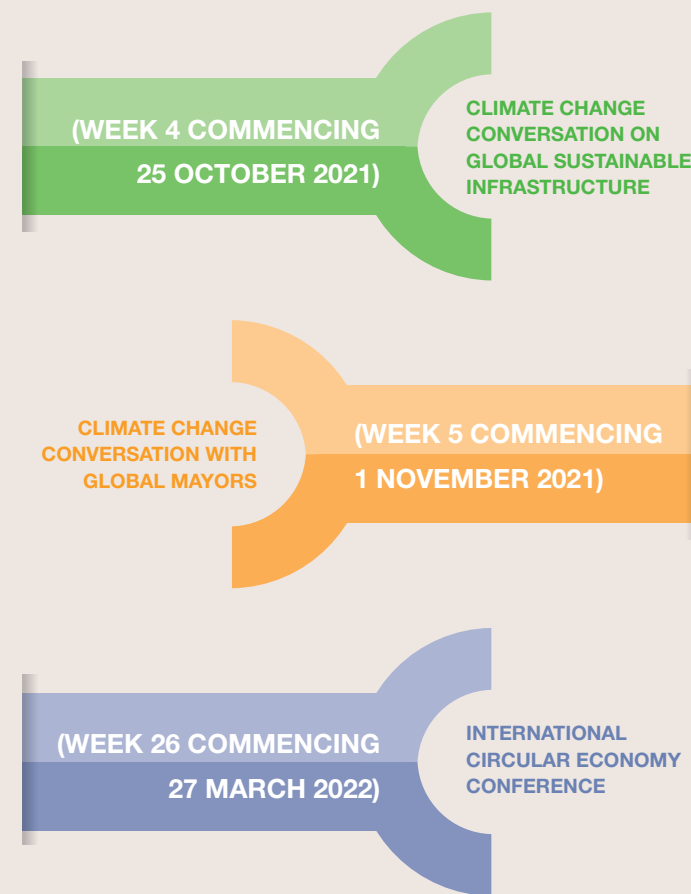


STRATEGIC REVIEW

MGTC and the Ministry of Environment and Water (KASA) will host strategic discussion topics to promote trade and business over four weeks at the EXPO 2020 Dubai, details as below:



KEY FORUMS



STRATEGIC REVIEW

GREEN ADVISORY

MGTC's Green Advisory programme serves to help organisations pursue effective green strategies and adopt green technologies and culture. The programme oversees the MyRelamp project.

MYRELAMP

MYRELAMP:
GOVERNMENT GREEN PROCUREMENT PILOT PROJECT
FOR LOCAL AUTHORITIES THROUGH LIGHTING ENERGY EFFICIENCY
IN SUPPORT OF THE LOW CARBON CITIES INITIATIVE

Funding was provided by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Germany through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, a German international development agency and supported by the Economic Planning Unit of the Prime Minister's Department, Malaysia.

The primary aim of the project is to enhance the adoption of Government Green Procurement via local authorities through the installation of environment-friendly and energy efficient lighting.

Its overall objective is defined by the benchmark of GGP to which eco-labelling scheme product criteria/ group are introduced and enhanced at four selected local authorities, namely:

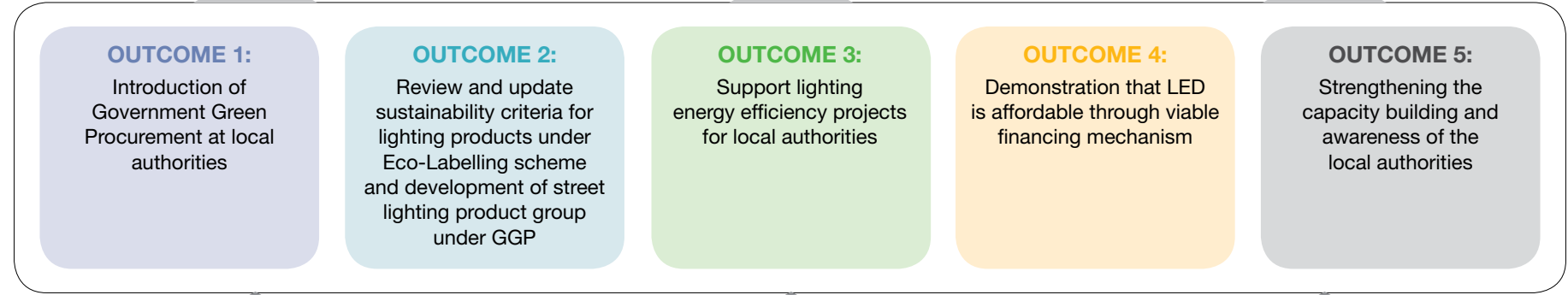
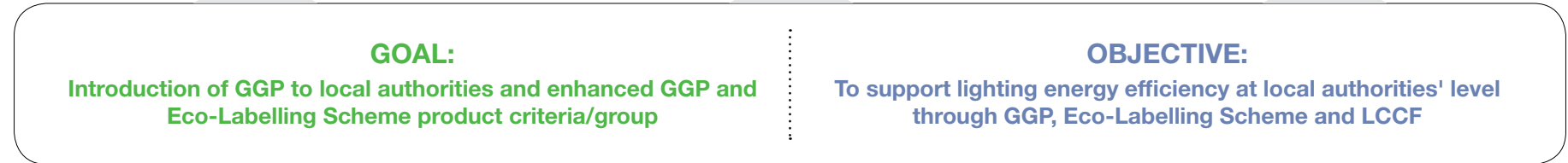
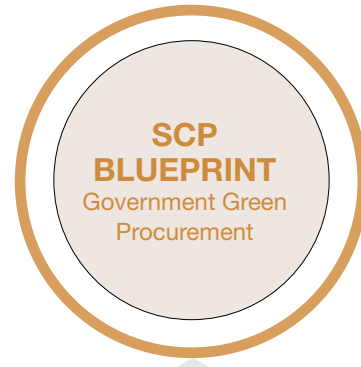
- Majlis Bandaraya Ipoh (MBI)
- Majlis Bandaraya Pasir Gudang (MBPG)
- Majlis Perbandaran Langkawi Bandaraya Pelancongan (MPLBP), and
- Majlis Daerah Hulu Selangor (MDHS)

MyRelamp is a pilot project carried out from October 2019 until December 2020 under the Government Green Procurement, implemented at Local Authorities level through retrofitting lighting in support of the Low Carbon Cities initiative.

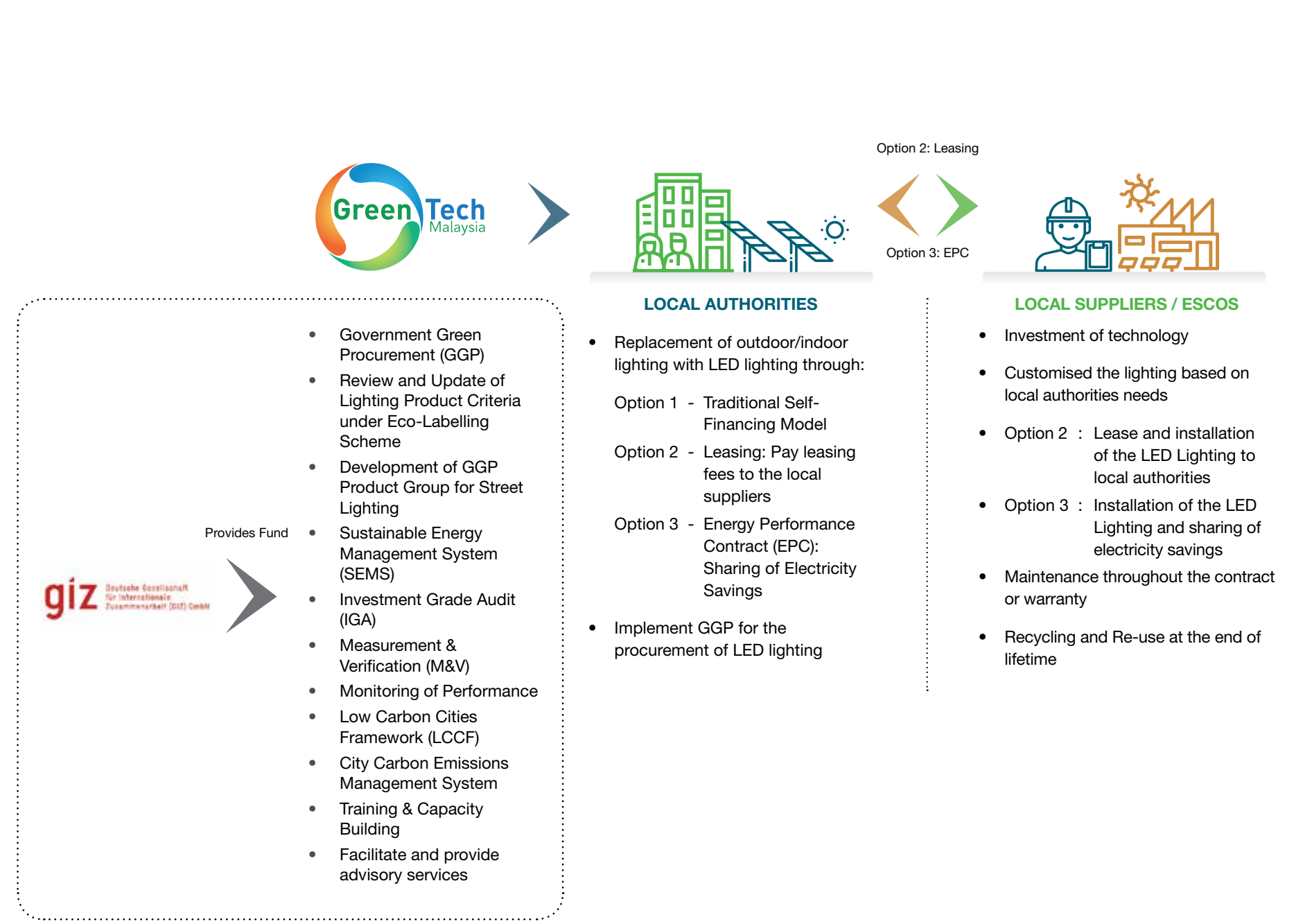
MyRelamp's strategic objectives are to:

- Expand the implementation of GGP initiative at local authority level and develop street lighting product criteria and specification as a new product group to be incorporated into existing GGP Guidelines
- Review and update available lighting product criteria under the Eco- Labelling Scheme
- Support the implementation of environment-friendly lighting and explore the most viable financing mechanism that can support the implementation of GGP in the field of products and services for lighting
- Support and strengthen the Low Carbon Cities Framework (LCCF) implementation by motivating the Local Authorities to further reduce greenhouse gases emission through energy efficiency measures which indirectly contributes to higher GGP value
- Stimulate awareness and instill green lifestyle among the staff of Local Authorities on energy savings and related cost potentials from the energy efficiency programmes as well as the purchase of green products and services

STRATEGIC REVIEW



STRATEGIC REVIEW



STRATEGIC REVIEW

HIGHLIGHTS

Guided by a robust action plan, the project has successfully achieved the following:

- 1 Tender specifications for lighting retrofit was developed based on GGP criteria for the four local authorities
- 2 'Eco-labelling criteria – luminaires for indoor lighting' and 'Eco-labelling criteria – outdoor lighting' documents were developed
- 3 GGP product group for street lighting was developed
- 4 Investment Grade Audit for lighting system was carried out by the four local authorities
- 5 Sustainable Energy Management System was developed for the four local authorities
- 6 Measurement and verification for lighting system was carried out at the four local authorities
- 7 Lighting performance monitoring was conducted for two local authorities which completed lighting retrofit and will be continued for a 1-year period
- 8 Low Carbon Cities action plan was developed for the four local authorities and four additional local authorities: Majlis Perbandaran Batu Pahat, Majlis Perbandaran Bentong, Majlis Perbandaran Selayang and Majlis Perbandaran Kuala Langat
- 9 Low Carbon City Carbon Calculator (LC4) was developed for use by all local authorities
- 10 Lighting retrofit was completed by Majlis Bandaraya Pasir Gudang and Majlis Daerah Hulu Selangor using outright purchase financing mechanism. Lighting retrofit by Majlis Bandaraya Ipoh will be carried out in 2021 (a tender has been opened using leasing financing mechanism)
- 11 Capacity building was completed for the four pilot local authorities through Energy Manager Training Course, Energy Auditor Training Course, Energy Management Awareness Seminar, GGP Training and Workshop, LCCF Workshop; such activities were conducted online during the pandemic
- 12 Learning materials were developed through publication of @Green Magazine and video production
- 13 Green promotional items were distributed to all stakeholders

STRATEGIC REVIEW

3

STRATEGIC THRUST
HUMAN CAPITAL

HUMAN CAPITAL FORMS AN INTEGRAL MOVING PART NECESSARY TO ENGAGE INTO HIGH GEAR AND DRIVE MALAYSIA'S GREEN TECHNOLOGY ENGINE PROGRESSIVELY FORWARD. IT REQUIRES SPECIALISED SKILLSETS AND COMPETENCIES TO FULLY CAPITALISE ON SUCH TECHNOLOGY. MGTC, AT THE HELM OF THIS GREEN TECHNOLOGY ENGINE, IS DRIVING FOR HUMAN CAPITAL DEVELOPMENT TO ENSURE A SUSTAINABLE ENERGY MANAGEMENT IS IN PLACE FOR INNOVATION AND PERFORMANCE.

ENERGY MANAGEMENT AND CLIMATE CHANGE PROGRAMME (EMCP)

Organisations looking to embrace new green technologies must first equip their workforce adequately with both knowledge and skills necessary to capitalise on such innovation. Energy management has emerged at the very core of such a workforce, to which MGTC has focused their efforts to align to meet the demands of the fast-changing environment by offering various programmes at its Green Skills Centre.

EMCP is an umbrella programme consisting of three specialised categories, as below:



The programmes are recognised by the Energy Commission of Malaysia and claimable under the Human Resources Development Corporation. CPP's Energy Manager Training Course (EMTC) had also been accorded due recognition by the ASEAN Center for Energy for the ASEAN Energy Management and Accreditation Scheme Programme (AEMAS) since 2014. As of December 2020, a total of more than 7,000 participants have benefited from MGTC's training programmes.

STRATEGIC REVIEW

1 CERTIFICATION AND PROFESSIONAL PROGRAMME (CPP)

There are four programmes offered by MGTC in this category:

i. Certified Energy Manager Training Course (EMTC)

EMTC is a certified programme, recognised by the ASEAN Centre For Energy (ACE) under the ASEAN Energy Management Scheme (AEMAS). AEMAS provides guidance on how to develop a Sustainable Energy Management System in energy facilities in compliance with ISO 50001 requirements. It also provides the added advantage of achieving real and quantifiable energy savings and CO₂ emission reductions. EMTC is designed to equip and certify Energy Managers with the knowledge and skills to implement Sustainable Energy Management Systems.

ii. Certified Professional in Measurement and Verification (CPMV)

CPMV is a technical training programme to facilitate end-users and energy service companies in conducting measurement and verification (M&V) activities for energy-saving programmes.

iii. Certified Energy Auditor Training (CEAT)

Certified Energy Auditor (CEA) training provides the knowledge and skills required to perform inspections, surveys and analysis of energy flows for energy conservation in a building, process or system. This is essentially to reduce the amount of energy input into the system without negatively affecting the output. The training also covers the use of energy audit tools and report writing skills. Led by experienced energy auditors and managers, trainees will be exposed to real-life examples of performing energy audit tasks, things to do and not do, and update with input from the industry.

Such Certified Energy Auditors are authorised to conduct audits on all facilities, especially those covered by EMEER 2008 Regulations or any energy audit programme by the Government and their agencies. They are also duly recognised by the Energy Commission.

iv. Certified ChargeEV Installer

This new programme is scheduled to be offered in 2021.

Rolled out in stages from 2013, these programmes have offered participants the opportunity to enhance their skillsets. Its success is evident in the increasing numbers, as seen in the table below:

No.	Programme	No. of Certifications (pax)							
		2013	2014	2015	2016	2017	2018	2019	2020
1.	Energy Manager	167	344	517	738	939	1,119	1,610	1,685
2.	Professional M&V			23	82	160	213	293	307
3.	Energy Auditor								12
4.	ChargeEV Installer								(to be introduced in 2021)

STRATEGIC REVIEW

2 NON-CERTIFICATION AND AWARENESS PROGRAMME (NCP)

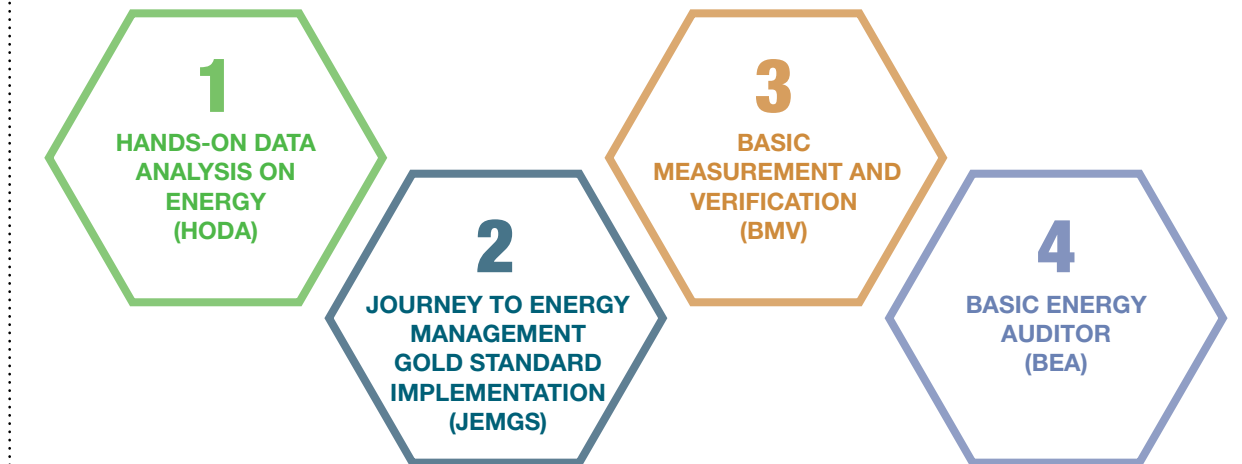
Until 2020, MGTC offered a total of six courses for non-certification or awareness programmes, as shown below:

- 1 Energy Management Gold Standard (EMGS) – for internal assessor
- 2 Energy and Water Management Training (EWMT)
- 3 Have We Done Enough to Save Energy Bills? (HWDE)
- 4 Green Technology Financing for Financial Institutions
- 5 Registered Electrical Energy Manager (REEM) Guidelines Workshop
- 6 Professional Energy Manager (PEM) Guidelines Workshop – specifically for PEM applicants

3 SHORT COURSE PROGRAMME (SCP)

The implementation of MCO and CMCO had an impact on the implementation of the training programme under GSC. It also led to the shift from onsite training programmes to online learning programmes.

In December 2020, to further drive interest in learning programmes, GSC introduced four short course programmes, with a minimum of 4 hours duration, as listed below:



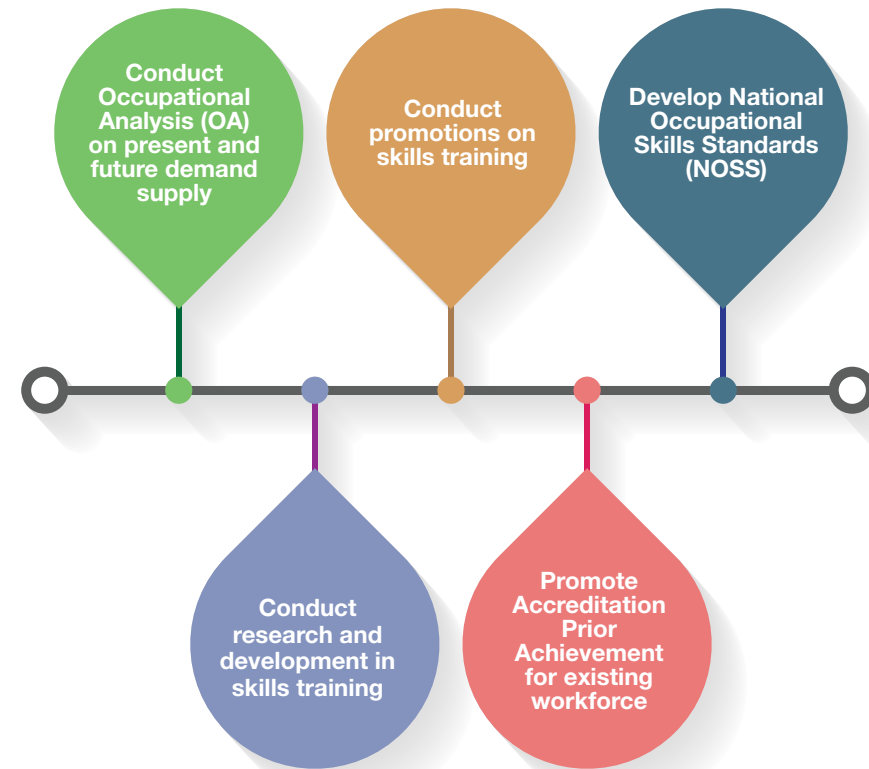
Such programmes were well received by the relevant industries as well as individuals looking to expand their knowledge in the area of energy.

STRATEGIC REVIEW

INDUSTRY LEAD BODY (ILB) FOR GREEN TECHNOLOGY

In 2013, MGTC was appointed the ILB for Green Technology related skills by the Ministry of Human Resources (MOHR). In Malaysia, there are currently 31 organisations appointed as ILB, representing various sectors such as Electrical and Electronic, Telecommunication and Broadcasting Industry, Transportation, Packaging, Printing, Halal Industries and many others.

The key functions of ILBs are to:



To date, a total of 26 NOSS have been developed since 2013, of which the latest are:

THERMAL ENERGY AUDIT MEASUREMENT (LEVEL 3)

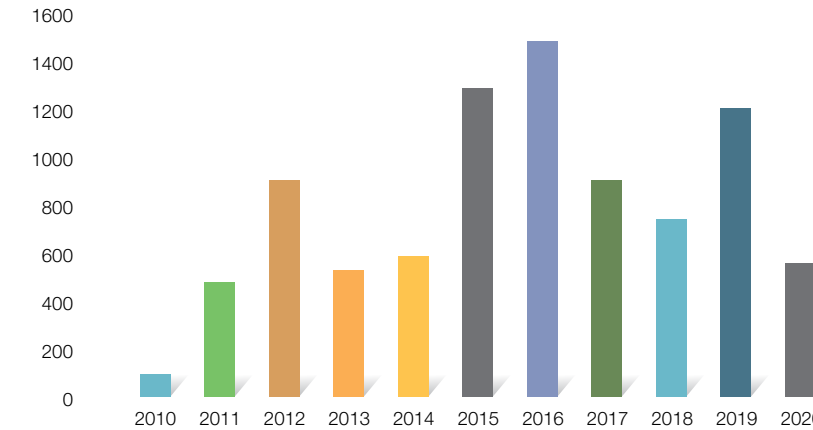
SOLAR THERMAL SYSTEM ENGINEERING (LEVEL 4 AND 5)

SOLAR THERMAL SYSTEM INSTALLATION

STRATEGIC REVIEW

ENERGY MANAGEMENT AND CLIMATE CHANGE PROGRAMME (EMCP)

No. of people trained



8,842 people trained since 2010

1,974 people certified via EMTC, CEA and CPMV*

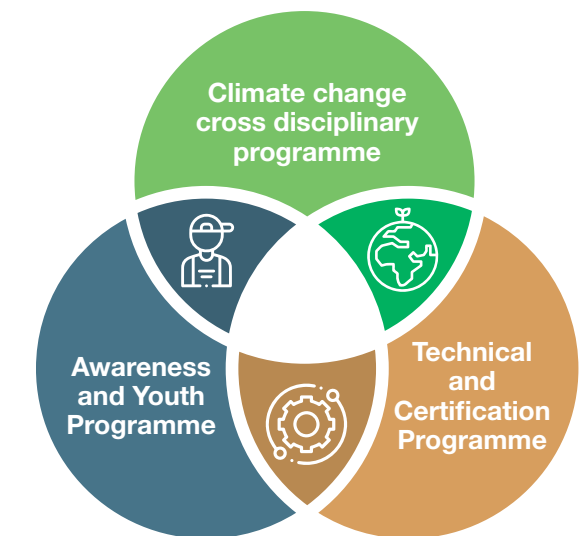
27 training programmes

- * EMTC – Energy Manager Training Course
- CEA – Certified Energy Auditor
- CPMV – Certified Profession Measurement and Verification

STRENGTHEN COLLABORATION WITH TRAINING PARTNERS / POTENTIAL TRAINING PARTNERS



VARIOUS TRAINING MODULES RELATED TO THE GREEN TECHNOLOGY AND CLIMATE CHANGE PROGRAMME (INCLUDING ONLINE MODULES)



STRATEGIC REVIEW

4

STRATEGIC THRUST

RESEARCH & INNOVATION

RAPIDLY EVOLVING TECHNOLOGY BRINGS HEIGHTENED SOCIETAL EXPECTATIONS AND DEMANDS ON PRODUCT AND SERVICES, INVARIABLY PUTTING A STRAIN ON THE ENVIRONMENT. THIS HAS REINFORCED THE CRITICAL NEED FOR MGTC TO STRIVE FOR ENVIRONMENTAL SUSTAINABILITY WITH INCREASED RESOURCE-EFFICIENT OPERATIONS.

PROVIDING ACCESSIBILITY TO LATEST GREEN INNOVATION

MGTC has invested significant effort into nurturing a culture of research and innovation in Malaysia. In taking this to the next stage, MGTC endeavours to increase public access to such green technology innovation.

MGTC'S GREEN ENERGY OFFICE (GEO) BUILDING

The GEO Building, nestled in a five-acre site at Bandar Baru Bangi, Selangor, just 40 km south of Malaysia's capital Kuala Lumpur, was commissioned in 2007 and completed in 2010. It stands proud as a role model for green technology advancement in the country.

The main building, with 4,300m² net floor area, features an innovative architectural blend, combining functionary aesthetics with energy efficient facilities. The Building Energy Index (BEI) of the GEO Building is the lowest in its class, achieving an average Net BEI of 27 kWh/m²/year.

At the AEA 2020, MGTC's GEO emerged as the winner in the Special Submission for Zero Energy Building (ZEB) in Energy Efficiencies Category. This award is a further testimony of MGTC's commitment for excellence and dedication to the field of energy-efficient buildings with reference to its outstanding models of green innovation in Malaysia.

ZEB is a new sub-category introduced under the AEA's Energy Efficient Building category. ZEBs are defined as buildings that utilise advanced architectural designs aiming to realise substantial energy savings by reducing the energy loads, utilising natural energy by applying passive technologies, and introducing high-efficiency equipment and systems. Additionally, it aims to achieve the highest degree of energy independence and reduce the annual primary energy balance to zero by introducing renewable energy.

This award sends a strong signal, particularly to architects, that zero energy projects in buildings or homes can make a vast difference in contributing towards reducing carbon emission to dampen the release of Greenhouse Gas.

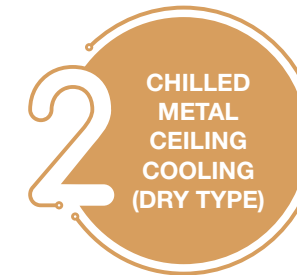
INNOVATION IN GREEN BUILDING DESIGN

To increase energy efficiency, a variety of active and passive design strategies were incorporated into the GEO Building design.

One innovative feature is the radiant cooling air conditioning system, the first in Malaysia. In this, 50% of the cooling comes from the ceiling and the floor by means of chilled radiation and the rest by air convection system for each building zone.

STRATEGIC REVIEW

Two types of radiant cooling systems are incorporated into this innovative building, namely:



1 FLOOR SLAB COOLING (WET TYPE)

Chilled water temperature at 18° Celsius is led into the designated floor slabs giving a surface temperature of 21°C at the ceiling and 22°C at the floor. For optimal efficiency, floor slabs are cooled early in the morning via embedded Cross-linked Polyethylene (PEX) cooling pipes.

2 CHILLED METAL CEILING (CMC) COOLING (DRY TYPE)

This cooling system is installed at MGTC's Resource Centre and consists of 122 CMC panels located on the ceiling. It is also run early in the morning to provide sufficient cooling at the Resource Centre.

Other passive green building features incorporated into the GEO Building are:

- **Ceiling and roof insulation** using mineral wool, foam and aerated concrete reduces external heat
- **Optimum orientation** with windows and doors strategically facing North and South to avoid direct sunlight and excessive heat gain
- **Self-shading design** preventing glare while maximising daylight usage
- **Rainwater harvesting system** used for condenser side cooling system and irrigation
- **Air Handling Unit (AHU) with Variable Speed Drive (Inverter)** to manage the entire building's heating, ventilating and air-conditioning
- **Vegetation and water feature** near the building indirectly reduces "heat island effect"
- **Double glazing windows** reflects ultraviolet as well as infrared radiation
- **Dual Facade Window Blinds (upper and lower Windows) and reflective mirror light shelf** increases diffused daylight penetration
- **Energy efficient lighting fixtures and movement-activated sensors** reduces energy consumption
- **Building-integrated photovoltaics (BIPV)** incorporated into the building envelope serves to generate clean and renewable electricity
- **Roof lights, skylights and reflective ceilings** increases the penetration of daylight, improving the indoor environment and user comfort
- **Building Energy Management System (BEMS)**, a web-enabled system, incorporates energy data logging and monitoring of the building performance, among its features
- **Airtight building envelope** retains cool air from escaping, using a thermal bridge on the window frames and revolving doors to preserve internal humidity and temperature

Such green innovation incorporated into the GEO Building has resulted in savings of almost 500,000 kWh per year (at least RM200,000 per annum savings) with a reduction of 360 tonnes per year of carbon emissions

Close up view of the PEX pipes installation in Floor Slabs



STRATEGIC REVIEW

RENEWABLE ENERGY SYSTEM: BUILDING INTEGRATED PHOTOVOLTAICS (BIPV)

Malaysia's equatorial climate provides an optimal geographical location for harnessing energy via solar photovoltaic systems. GEO's Building's design capitalises on this, with BIPV systems architecturally and aesthetically incorporated. It forms a key feature of the building, replacing conventional building materials in parts of its building envelope such as the roof, skylight and façade.

The BIPV systems generate electricity for the GEO Building's needs while exporting surplus electricity into the national utility grid during the daytime via a net-metering arrangement. The BIPV systems provide up to 50% of the building's electricity requirements, which amounts to 120,000 kWh/year.

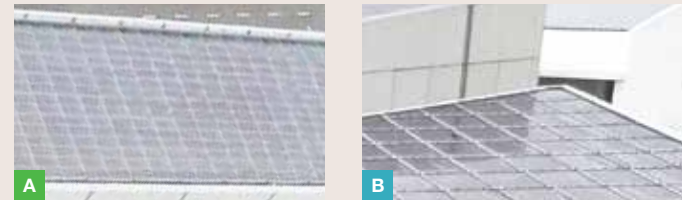
In total, there are 6 photovoltaic packages installed in and around the GEO Building, comprising:

- System A: Polycrystalline
- System B: Amorphous Silicon
- System C: See-through Monocrystalline
- System D: Monocrystalline
- Systems E and F: Thin Film

GEO Building's Building-Integrated Photovoltaic (BIPV) Systems



MGTC's GEO Building



- A** 47.28 kWp (polycrystalline)
- B** 6.08 kWp (amorphous silicon)
- C** 11.6 kWp (see-through monocrystalline)
- D** 27 kWp (monocrystalline)
- E** Ground Mounted PV 21 kWp (Thin Film, Greenfield)
- F** Solar PV Car Park 29 kWp (Thin Film)

STRATEGIC REVIEW

chargEV INNOVATION FOR ELECTRIC VEHICLES

Internal Combustion Engine (ICE) vehicles have long been recognised as a major contributor of CO₂ emissions. This has steadily reinforced the need to transition to a more low-carbon transport. Additionally, while automotive brands have long started introducing eco-friendly vehicles in the country, there is also a parallel need to provide accompanying public facilities for charging such vehicles.

In Malaysia, MGTC has undertaken an active role in driving this transition through its Low Carbon Mobility Division. On 17 August 2016, MGTC introduced chargEV which is the brand of its public EV charging station network. Besides providing convenient and accessible charging points for users of electric vehicles, it serves as an instrument for the public to experience the EV lifestyle in the Malaysian landscape. In collaboration with Sarawak Energy Berhad, EV users may now experience this facility in East Malaysia, where five stations have been installed in Kuching.

As at end-2020, MGTC had successfully installed a total of 330 chargEV stations at 228 public locations, covering shopping malls, hotels, Petronas stations and other selected public places. An innovative and practical feature is that chargEV has also made mobile apps available to its users, making it easier to locate nearby charging stations.

To monitor the performance of all these chargEV stations as well as the distance driven by users, the chargEV network collectively tracks charging activity in public locations. Until 2020, the chargEV network recorded 934,691 kWh of electricity consumption, equating to 6,231,273 km driven, an increase of 31% from the previous year. This is encouraging, reflecting the growing acceptance of EV users in the country, impacting on the reduced emission of CO₂ and air pollution.

MGTC is actively driving the use of electric vehicles to effectively reduce carbon emissions and local air pollution. It owns an EV fleet comprising of the Tesla Model S, Nissan Leaf, Renault Zoe and Mitsubishi i-MiEV models, some even offering innovative features such as long battery capacity of over 400km.

chargEV NETWORK EXPANSION WITH TNBES



With a view to encouraging and easing the transition to a greener alternative transport, MGTC and TNBES have entered into a collaboration to add more EV charging stations. This move will further support MGTC's national EV charging network, chargEV.

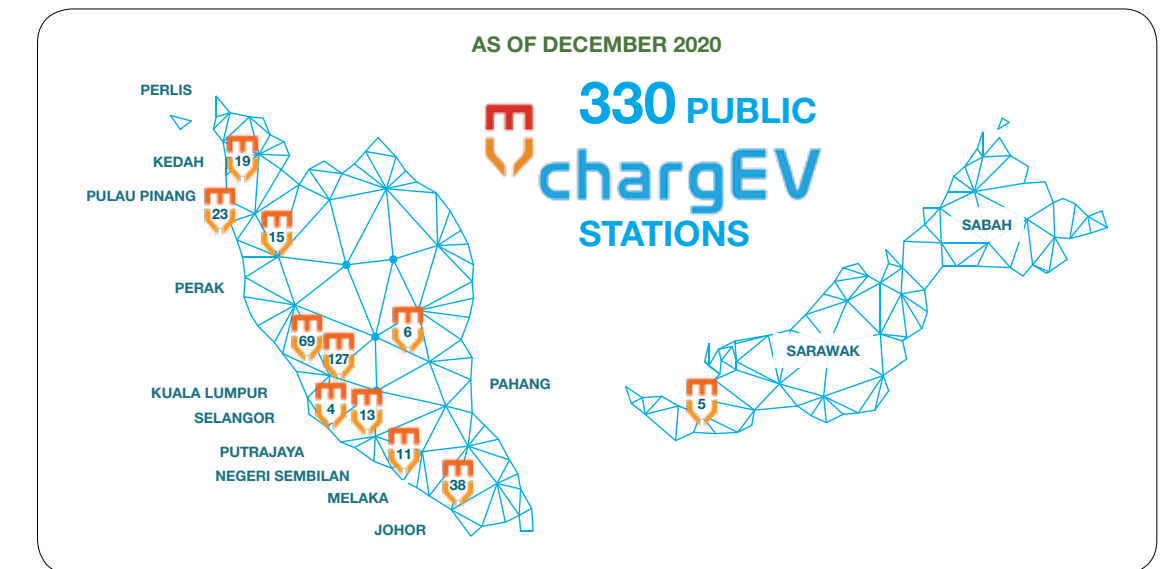
73 new charging points have been installed at various locations at shopping malls, hotel, mixed developments and along the North-South Expressway under the collaboration with TNBES, thus enabling more electric journeys by Malaysian EV drivers.

By subscribing to chargEV membership at an annual fee of RM240, charge station members are freed from charges on a usage basis.

As of December 2020, this has made a positive impact on the environment in terms of:

Electricity charged	935 MWh with 172,859 sessions
Estimated electric range	6,231,273 km
Estimated CO ₂ emissions reduction	1,190,173 kgCO ₂
Carbon sequestered by trees	29,754 trees/ year

Moving forward, MGTC is enhancing its efforts to expand the national charging network with the potential collaboration partners with emphasis on delivering EV charging infrastructure to cater for different location types, use scenarios and increasing the number of charging network. This is envisaged to include faster and ultra-fast charging for newer, pure battery electric vehicles entering the market.



STRATEGIC REVIEW

STRATEGIC THRUST

5 PROMOTION AND PUBLIC AWARENESS

A GREEN TECHNOLOGY MINDSET IS STEADILY GAINING A Foothold IN ORGANISATIONS AND THE COMMUNITY. THIS IS EVIDENCED BY THE INCREASING PRODUCTS AND SERVICES AVAILABLE AND UPTAKE ON ITS USE. MGTC'S EFFORTS OVER THE DECADE HAS SUPPORTED THIS STEADY MOMENTUM BY PUBLICLY RECOGNISING EXCELLENCE IN GREEN TECHNOLOGIES, FURTHER REINFORCING THE IMPORTANCE OF SUSTAINABLE DEVELOPMENT FOR THE FUTURE.

AWARDS AND RECOGNITION

For over a decade, MGTC has enabled concerted efforts towards a green technology mindset progression, driving recognition for achievements and motivating for accelerated adoption of sustainable development.

NATIONAL ENERGY AWARDS (NEA)



The NEA is an initiative to acknowledge the adopters of energy efficiency technology and renewable energy while simultaneously inspiring others to follow suit. It is also a strategic move to promote innovation in local projects and solutions in line with the country's aspiration to spur energy sector as the new area for economic growth.

This is an initiative by the Energy Sector, Ministry of Energy and Natural Resources (KeTSA), supported by the Energy Commission (ST) and Sustainable Energy Development Authority (SEDA).

It also provides a platform to identify Malaysia's best practices in the field of renewable energy and energy efficiency and to represent Malaysia at the annual ASEAN Energy Awards (AEA). Such initiatives seek to encourage an eventual nationwide adoption of such practices, working towards the country's aspiration to reduce its carbon footprint by 45% by 2030. In addition, it is also an opportunity for technology transfer and networking for the energy sector in Malaysia.

Since its launch in 2018, NEA has presented 54 awards to various Malaysian organisations, with 42 of them accorded regional recognition at the AEA.

NEA Impact

The value proposition NEA brings to stakeholders is its impact on:

- Recognising the best implemented practices, solutions in energy management and efficiency that showcase innovative, cost-effective and exemplary measures
- Positioning Malaysia as one of the primary hubs in the renewable energy and energy efficiency sectors in Southeast Asia
- Effectiveness of current initiative with the goal of transforming Malaysia's energy landscape

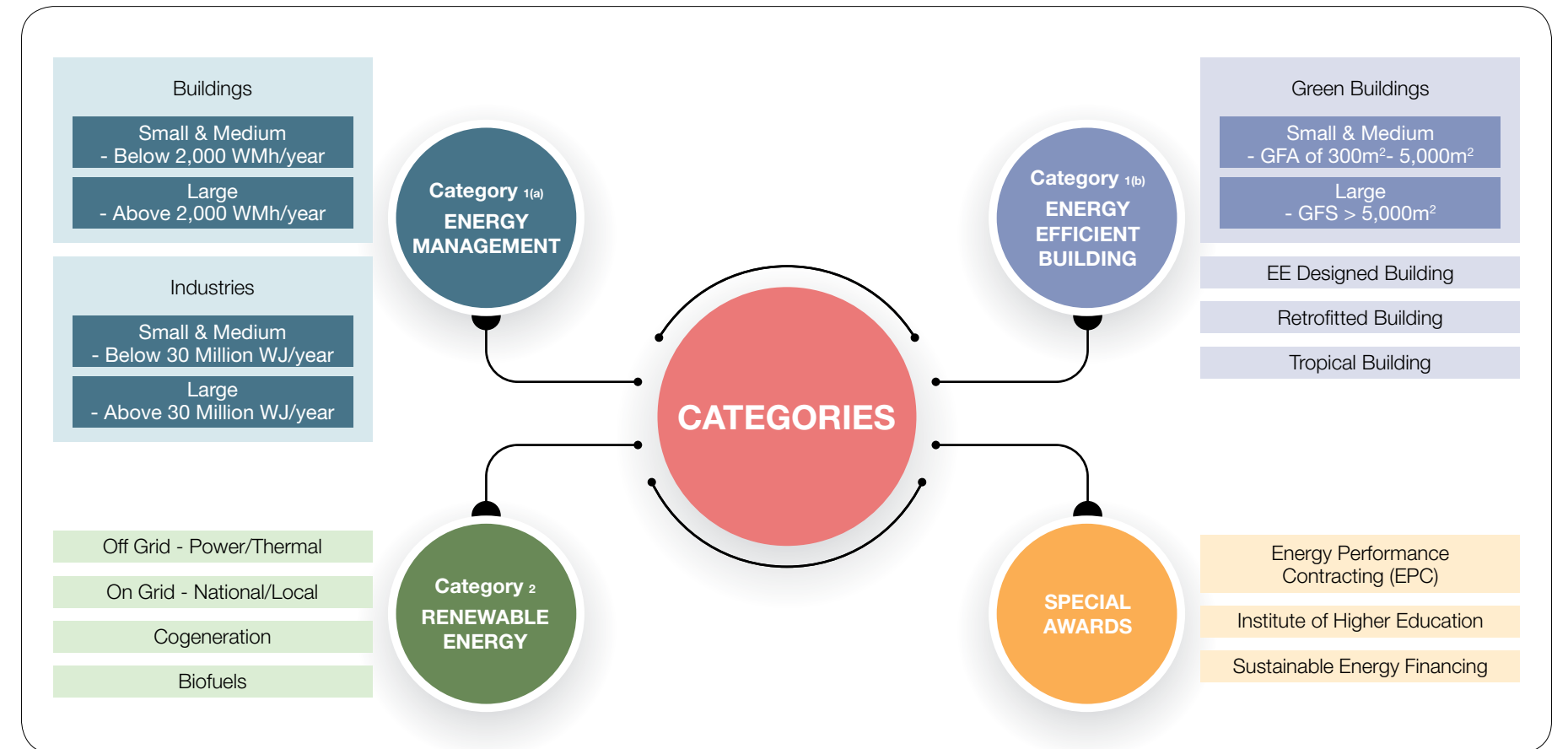
STRATEGIC REVIEW

NEA AWARD CATEGORIES

To ensure fairness and accountability, two broad award categories are in place for the NEA:

1. Energy Efficiency, for recognising excellence in energy management and energy efficiency in commercial and industrial buildings, and
2. Renewable Energy, encompassing on-grid and off-grid generation of energy from different renewable sources

In addition, Special Awards are introduced to acknowledge and recognise the efforts being made in other sectors and industries that encouraged the adoption of sustainable energy practices in their operations



STRATEGIC REVIEW

2020 NEA AWARD WINNERS

The award winners for 2020 NEA are listed below:

CATEGORY 1: ENERGY EFFICIENCY

ENERGY MANAGEMENT (LARGE BUILDING)

WINNER:
MENARA
KORPORAT
PERSADA
PLUS



RUNNER-UP:
MENARA
TM



ENERGY MANAGEMENT (SMALL BUILDING)

WINNER:
TM NODE
SKUDAI,
JOHOR
BAHRU



ENERGY MANAGEMENT (LARGE INDUSTRY)

WINNER:
TOP GLOVE
29



GREEN BUILDING (LARGE)

WINNER:
MENARA
KEN
TTDI



RUNNER-UP:
LCDA
TOWER



GREEN BUILDING (SMALL)

WINNER:
PAM CENTRE



RUNNER-UP:
HONDA
BHS AUTO
SHOWROOM
AND CARE
CENTRE



GREEN BUILDING (SMALL)

(MERIT
AWARD)
WINNER:
WISMA
REHDA



STRATEGIC REVIEW

2020 NEA AWARD WINNERS

CATEGORY 2: RENEWABLE ENERGY

ON-GRID (NATIONAL GRID))

WINNER:
CONCORD
GREEN
ENERGY
SDN BHD



RUNNER-UP:
AMCORP
POWER
SDN BHD



ON-GRID (NATIONAL GRID))

WINNER:
SIME
DARBY
PLANTATION
BERHAD



OFF-GRID (POWER)

WINNER:
SARAWAK
ENERGY
BERHAD



RUNNER-UP:
UNIVERSITI
TEKNOLOGI
MALAYSIA



BIOFUEL

WINNER:
UKM-YSD
CHAIR FOR
SUSTAINABLE
DEVELOPMENT



COGENERATION

WINNER:
FGV PALM
INDUSTRIES
SDN BHD



STRATEGIC REVIEW

2020 NEA AWARD WINNERS

CATEGORY: SPECIAL AWARDS

INSTITUTE OF HIGHER EDUCATION

WINNER: MULTIMEDIA UNIVERSITI, MELAKA



WINNER: SUNWAY UNIVERSITY



ENERGY PERFORMANCE CONTRACTING (EPC)

WINNER: OWNER: POLITEKNIK MERLIMAU CAMPUS



ESCO: TAIACE ENGINEERING SDN BHD

WINNER: OWNER: TM NODE BANDAR TUN RAZAK - TELEKOM MALAYSIA BERHAD



ESCO: LOTUS WEST SDN BHD

WINNER: OWNER: INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA GOMBAK CAMPUS



ESCO: CENERGI EE SDN BHD

STRATEGIC REVIEW

2020 NEA AWARD WINNERS

CATEGORY: SPECIAL AWARDS

SUSTAINABLE ENERGY FINANCING (CONVENTIONAL FINANCING)

WINNER: UOB BANK



WINNER: OCBC BANK



SUSTAINABLE ENERGY FINANCING (ISLAMIC FINANCING)

WINNER: AFFIN ISLAMIC BANK



WINNER: MAYBANK ISLAMIC



SUSTAINABLE ENERGY FINANCING (DEVELOPMENT FINANCING INSTITUTIONS AND OTHERS)

WINNER: MALAYSIA DEBT VENTURES BERHAD



WINNER: SME BANK



STRATEGIC REVIEW

Award presentation by YB Datuk Seri Dr. Shamsul Anuar bin Hj Nasarah, Minister of Energy and Natural Resources Malaysia to NEA 2020 Winners, some of whom are captured below:



ASEAN ENERGY AWARDS (AEA) AWARD CATEGORIES

Given the strong interest generated across multifaceted organisations, categories available at AEA 2020 are:



STRATEGIC REVIEW

AEA 2020 AWARD WINNERS (MALAYSIA)

Introduced a decade ago, the AEA is the highest recognition in Southeast Asia for excellence, creativity, practicality and dedication to a cause in the field of energy.

Organised by ASEAN Centre for Energy (ACE) in collaboration with the ASEAN Specialised Energy Bodies (SEBs), AEA is an annual event to promote awareness and

encourage private companies in each ASEAN Member States (AMS) to enhance their Renewable Energy technologies and development towards a cleaner energy resource.

A total of 15 organisations were recognised at AEA 2020, among which was MGTC, winning the Zero Energy Building (ZEB) Ready Award under the Special Submission category.

MALAYSIAN WINNERS AT AEA 2020 (19th November 2020, Vietnam)

	CATEGORY	OUTCOME	ORGANISATION
Green Building Awards 2020	Small and Medium Building	Winner	PAM Centre
		2 nd Runner-up	Honda Auto Showroom and Care Centre
Energy Management for Buildings and Industry Awards 2020	Large Building	Winner	Menara Ken TTDI
	Small and Medium Building	1 st Runner-up	Hospital Jelebu, Negeri Sembilan
	Large Building	1 st Runner-up	Menara Korporat, Persada PLUS
Energy Efficient Building Awards 2020	Large Industry	2 nd Runner-up	Top Glove Factory 29
	New and Existing Building	Winner	LCDA Tower
	Retrofitted Building	Winner	Menara Weld and The Weld Shopping Centre
Renewable Energy Awards 2020		2 nd Runner-up	UDA Angsana Mall, JB
	On-Grid – National Grid	Winner	Ancorp Power Sdn Bhd
		2 nd Runner-up	Concord Green Energy Sdn Bhd
	On-Grid – Local Grid	2 nd Runner-up	Sime Darby Plantation Berhad
	Biofuel	1 st Runner-up	UKM-YSD Chair for Sustainable Development
Special Submission 2020*	Special Submission	Winner	Indah Water Konsortium Sdn Bhd
	ZEB Ready	Winner	Malaysia Green Technology Corporation (MGTC)
Individual Awards AEA 2020			Pn. Azah Ahmad

* Special submission category is not under NEA 2020

STRATEGIC REVIEW

ASEAN ENERGY AWARDS 2020



Award presentation by YB Datuk Seri Dr Shamsul Anuar bin Hj Nasarah, Minister of Energy and Natural Resources, to Syed Ahmad Bin Syed Mustafa, MGTC's Chief Operations Officer, as GEO Building named as the winner of the Special Submission - Zero Energy Building in Energy Efficiencies Category.



OVERALL PROGRESSIVE ACHIEVEMENT IN NUMBERS



STRATEGIC REVIEW

LOW CARBON CITIES (LCC) AWARD

Introduced in 2017 as the Low Carbon Annual Sharing Session, it highlighted efforts of local authorities, universities, organisations and companies in lowering their carbon footprint. Fast gaining traction in 2019, it was renamed the Low Carbon Cities Awards in 2019.

DIAMOND RECOGNITION AND PROVISIONAL CERTIFICATION

In return for their effort, such local authorities would be duly recognised by KASA and MGTC with LCC's prestigious Diamond Recognition or Provisional Certificate, thus enhancing their reputation in climate action, increased efficiency in city operations and future proofing their cities.

MGTC's efforts alongside relevant stakeholders to drive awareness on low carbon cities has steadily gained momentum. In 2020, a total of 14 Low Carbon Zones and 20 Low Carbon Partners were awarded the Diamond Recognition for their reduced emission contribution. A further 1 Low Carbon Zone and 21 Low Carbon Partners were awarded the Provisional Certificate.

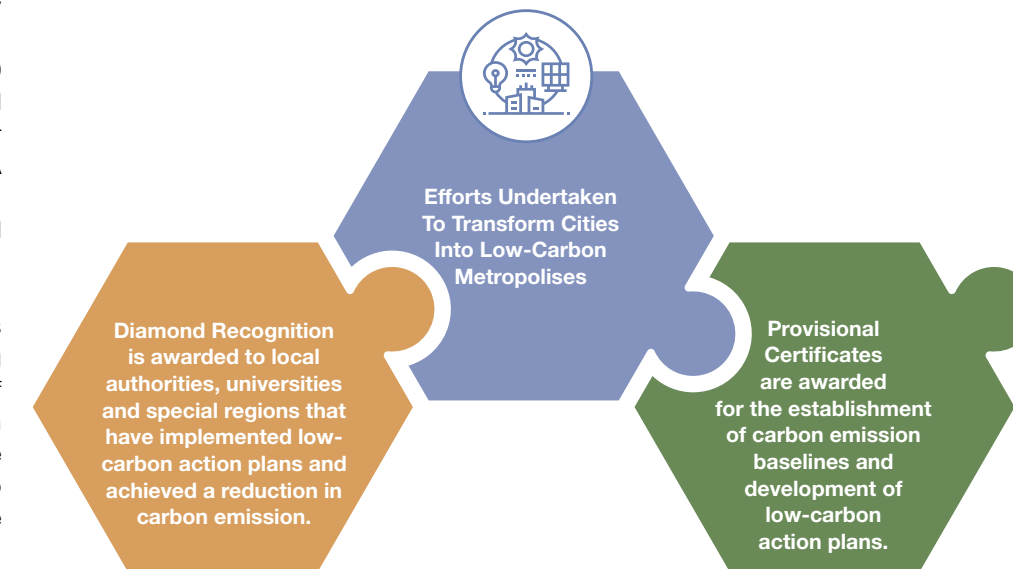
This is indeed encouraging, as it demonstrates the growing commitment and confidence of organisations and municipalities in Malaysia in adopting sustainable practices in their operations. It also acts as a springboard to motivate others to follow suit.



2020 Diamond Recognition

14
LOW CARBON ZONES

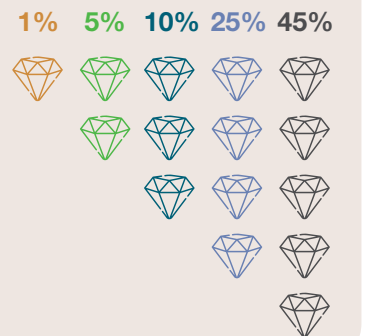
20
LOW CARBON PARTNERS



RECOGNITION

PROVISIONAL CERTIFICATE
Develop baseline and pledge commitment to reduce emissions

DIAMOND RECOGNITION
Achieve emissions reduction based on the scale below



STRATEGIC REVIEW



LCC 2030 CHALLENGE AWARD RECIPIENTS 2020

DIAMOND RECOGNITION

No.	Local Authority	Zone/Partner Name	Project Owner
1	Majlis Perbandaran Pasir Gudang	LC Zone 1 Pasir Gudang	Majlis Perbandaran Pasir Gudang
2	Majlis Perbandaran Batu Pahat	Bandar Penggaram	Majlis Perbandaran Batu Pahat
3	Majlis Perbandaran Langkawi	Kawasan Bandar Kuah	Majlis Perbandaran Langkawi
4	Majlis Perbandaran Hang Tuah Jaya	MITC Area	Majlis Perbandaran Hang Tuah Jaya
5	Majlis Perbandaran Alor Gajah	Bandar Alor Gajah Zon 1	Majlis Perbandaran Alor Gajah
6	Majlis Bandaraya Ipoh	Kawasan Perancangan Pusat	Majlis Bandaraya Ipoh
7	Majlis Bandaraya Shah Alam	Pusat Bandar, Seksyen 14, Shah Alam	Majlis Bandaraya Shah Alam
8	Majlis Bandaraya Shah Alam	Seksyen 1, UiTM Shah Alam	Majlis Bandaraya Shah Alam
9	Majlis Bandaraya Shah Alam	Seksyen 5, Shah Alam	Majlis Bandaraya Shah Alam
10	Majlis Perbandaran Kajang	Pusat Bandar, Seksyen 9, BB Bangi	Majlis Perbandaran Kajang
11	Majlis Perbandaran Subang Jaya	Bandar Sunway	Majlis Perbandaran Subang Jaya
12	Majlis Perbandaran Sepang	Cyber 1	Majlis Perbandaran Sepang
13	Majlis Daerah Hulu Selangor	Bandar Kuala Kubu Bharu	Majlis Daerah Hulu Selangor
14	Majlis Perbandaran Kuala Langat	Zon A Kawasan Perindustrian Teluk Panglima Garang	Majlis Daerah Kuala Langat
15	Majlis Daerah Mersing	Shaz Resort Pulau Tinggi	Shaz Resort Sdn Bhd
16	Majlis Perbandaran Hang Tuah Jaya	Kompleks Melaka Mall, MPHTJ	Majlis Perbandaran Hang Tuah Jaya
17	Majlis Perbandaran Bentong	Ibu Pejabat Majlis Perbandaran Bentong	Majlis Perbandaran Bentong
18	Majlis Bandaraya Shah Alam	Wisma MBSA, MBSA	Majlis Bandaraya Shah Alam
19	Majlis Bandaraya Shah Alam	Pejabat SUK Selangor, Seksyen 5 Shah Alam	SUK Selangor
20	Majlis Bandaraya Shah Alam	Bangunan Sultan Idris Shah	Jabatan Agama Islam Negeri Selangor
21	Majlis Bandaraya Shah Alam	Masjid Sultan Salahuddin Abdul Aziz Shah	Jabatan Agama Islam Negeri Selangor
22	Majlis Bandaraya Shah Alam	Avisena Specialist Hospital	Avisena Specialist Sdn Bhd

STRATEGIC REVIEW

No.	Local Authority	Zone/Partner Name	Project Owner
23	Majlis Bandaraya Shah Alam	Kompleks Ibu Pejabat PKNS	Perbadanan Kemajuan Negeri Selangor
24	Majlis Bandaraya Shah Alam	Canseleri Tuanku Syed Sirajuddin	Universiti Teknologi MARA
25	Majlis Bandaraya Shah Alam	Fakulti Sains Komputer & Matematik, UiTM	UiTM
26	Majlis Bandaraya Shah Alam	Pusat Kesihatan, UiTM	UiTM
27	Majlis Bandaraya Shah Alam	Kompleks Kejuruteraan, UiTM	UiTM
28	Majlis Bandaraya Shah Alam	Fakulti Senibina Perancangan dan Ukur, UiTM	UiTM
29	Majlis Bandaraya Shah Alam	UOW Malaysia KDU University College	UOW Malaysia KDU University College
30	Majlis Perbandaran Klang	Bangunan Sultan Alam Shah, Ibu Pejabat MPK	Majlis Perbandaran Klang
31	Majlis Perbandaran Selayang	Kompleks Ibu Pejabat MP Selayang	Majlis Perbandaran Selayang
32	Majlis Daerah Hulu Selangor	Ibu Pejabat Majlis Daerah Hulu Selangor	Majlis Daerah Hulu Selangor
33	Majlis Daerah Hulu Selangor	Masjid Jamek Ar-Rahimah	Majlis Daerah Hulu Selangor
34	Majlis Daerah Hulu Selangor	Hospital Kuala Kubu Bharu	Majlis Daerah Hulu Selangor



STRATEGIC REVIEW

PROVISIONAL CERTIFICATE

No.	Local Authority	Zone/Partner Name	Project Owner
1	Majlis Perbandaran Klang	Zon LCC 1, Pusat Bandar Klang Selatan	Majlis Perbandaran Klang
2	Majlis Perbandaran Klang	Jabatan Perkhidmatan Persekitaran MPK	Majlis Perbandaran Klang
3	Majlis Perbandaran Klang	Jabatan Penguatkuasa MPK	Majlis Perbandaran Klang
4	Majlis Bandaraya Petaling Jaya	PJ Smart Centre	Majlis Bandaraya Petaling Jaya
5	Majlis Perbandaran Kuantan	Kompleks Ibu Pejabat MP Kuantan	Majlis Perbandaran Kuantan
6	Majlis Bandaraya Shah Alam	Avisena Women and Children Specialist Hospital	Avisena Specialist Sdn Bhd
7	Majlis Perbandaran Batu Pahat	Faculty of Technology Management and Business	Universiti Tun Hussein Onn Malaysia
8	Majlis Perbandaran Pengerang	Inkubator at Pengerang	Perisind Samudera Sdn Bhd
9	Majlis Perbandaran Hang Tuah Jaya	SK Bukit Beruang	SK Bukit Beruang
10	Majlis Perbandaran Hang Tuah Jaya	SK Taman Merdeka	SK Taman Merdeka
11	Majlis Perbandaran Hang Tuah Jaya	SK Dato' Demang Hussin	SK Dato' Demang Hussin
12	Majlis Perbandaran Hang Tuah Jaya	SMK Tun Mutahir	SMK Tun Mutahir
13	Majlis Perbandaran Klang	Pejabat Daerah dan Tanah Klang	Pejabat Daerah dan Tanah Klang
14	Majlis Perbandaran Klang	Ibu Pejabat Lembaga Pelabuhan Kelang	Lembaga Pelabuhan Kelang
15	Majlis Perbandaran Klang	Masjid Kampung Raja Uda, Pelabuhan Klang	Masjid Kampung Raja Uda, Pelabuhan Klang
16	Majlis Perbandaran Klang	SMK (P) Raja Zarina	SMK (P) Raja Zarina
17	Majlis Perbandaran Klang	SAM SULTAN HISAMUDDIN	SAM SULTAN HISAMUDDIN
18	Majlis Perbandaran Klang	Sekolah Agama Rakyat (KAFA Integrasi) Al-Falah	Sekolah Agama Rakyat (KAFA Integrasi) Al-Falah
19	Majlis Perbandaran Klang	SK St Anne's Convent	SK St Anne's Convent
20	Majlis Perbandaran Klang	SK Bukit Kapar	SK Bukit Kapar
21	Majlis Perbandaran Klang	SJK(C) Hin Hua	SJK (C) Hin Hua, Bandar Bilit Tinggi
22	Majlis Perbandaran Klang	SK Taman Gembira	SK Taman Gembira, Klang



STRATEGIC REVIEW

EXPERIENTIAL LEARNING AND DEMO PROJECTS

Experiential learning is the process of learning through experience, and is more narrowly defined as “learning through reflection on doing”. MGTC has since embraced this process and offers potential users the opportunity to learn first-hand. This is run mainly through on-site visits, demonstration projects, simulation models and various other avenues designed to instil and nurture the desire to adopt a greener lifestyle.

GEO BUILDING TOUR PROGRAMME

Incorporating green technologies and solutions such as innovative energy management systems and rainwater harvesting systems, GEO Building has built its prominence as a beacon of design and construction of sustainable and living/working spaces in the region. It has attracted keen interest, such that tours are organised.

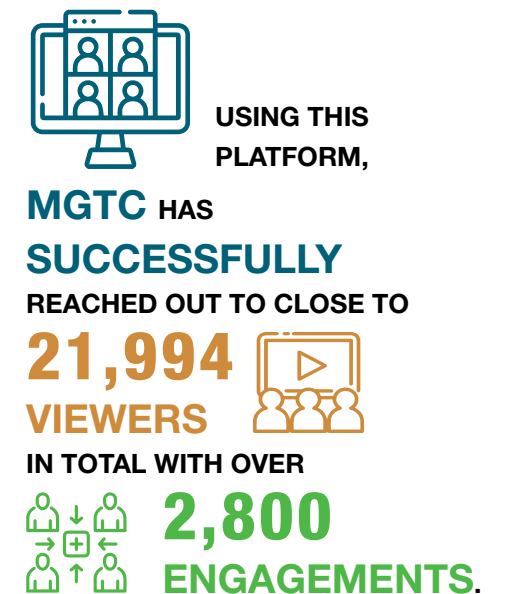
Among the many visitors to MGTC are local and foreign ministerial delegations, organisations, educational institutions and even members of the public keen to learn more on green technology and its application in one’s everyday life.

‘GREEN TALK’ PROGRAMME

MGTC utilises various innovative, contemporary channels to reach out to increase awareness on green technology. Besides standard print and broadcast media, MGTC has since embraced social media using Facebook and YouTube to also reach out to impressionable youth and upcoming professionals.

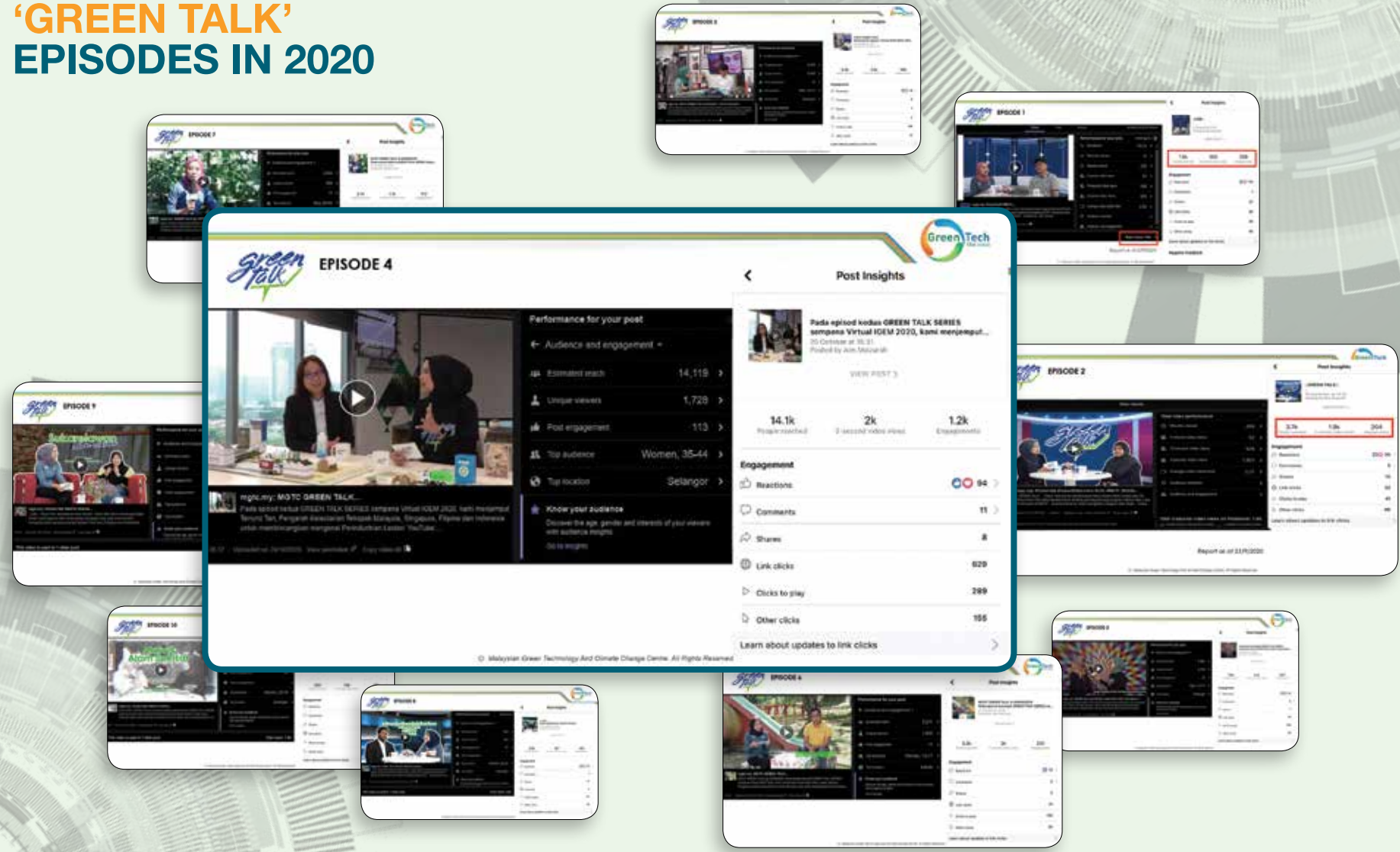
MGTC’s initiative is “Green Talk”, an engaging interview programme, featuring guests from various sectors openly discussing real issues pertaining to the environment, green technology and climate change in Malaysia.

A total of 10 episodes were produced in 2020, featuring a wide range of personalities, from MGTC officials and heads of organisations, to green activists and farmers, even featuring a musician and social media celebrity for a holistic approach. Green-related topics discussed openly were as below:



STRATEGIC REVIEW

'GREEN TALK' EPISODES IN 2020



STRATEGIC REVIEW

CLIMATE CHANGE CONVERSATION WEBINARS

Climate Change Conversations (CCC) is a panel-based, awareness forum which serves as a platform for audiences from various sectors to share their concerns, insights, and experiences on climate change. This webinar series is one of MGTC's aspirations to gather our local experts from diverse background to spark fresh ideas and inspire new actions on climate change and environmental sustainability. CCC also aims to mutually trigger intellectual discourse through dialogues between key players from various sectors such as Government Ministries, Agencies, State Government, Private Industries, Universities, NGOs and expert.

In 2020, MGTC hosted three series of webinars covering the following topics:

1
23 APRIL 2020
 'Perubahan Iklim dan Langkah ke Hadapan dalam Melestarikan Alam'
(Climate Change and Stepping Towards Environmental Sustainability)



Moderated by MGTC, it featured specialists from various related fields and attracted a total of **347 participants**. Posted on social media, it recorded **17,678 views** and **122,596 engagements** via Facebook.

2
11 SEPTEMBER 2020
 'Building Resilience in Cities'



3
30 NOVEMBER 2020
 'Climate Change and Its Impact on Food Security in Malaysia'



STRATEGIC REVIEW

AWARENESS ON THE LOW EMISSIONS PATHWAYS

MALAYSIA CLIMATE ACTION SIMULATOR

Global simulation models, such as the Global Calculator 2050 and En-ROADS (Energy-Rapid Overview and Decision-Support), are being used to estimate global greenhouse gas emissions and project subsequent climate impacts, based on large-scale policy directions, technological and societal shifts, in varying scenarios through to 2050.

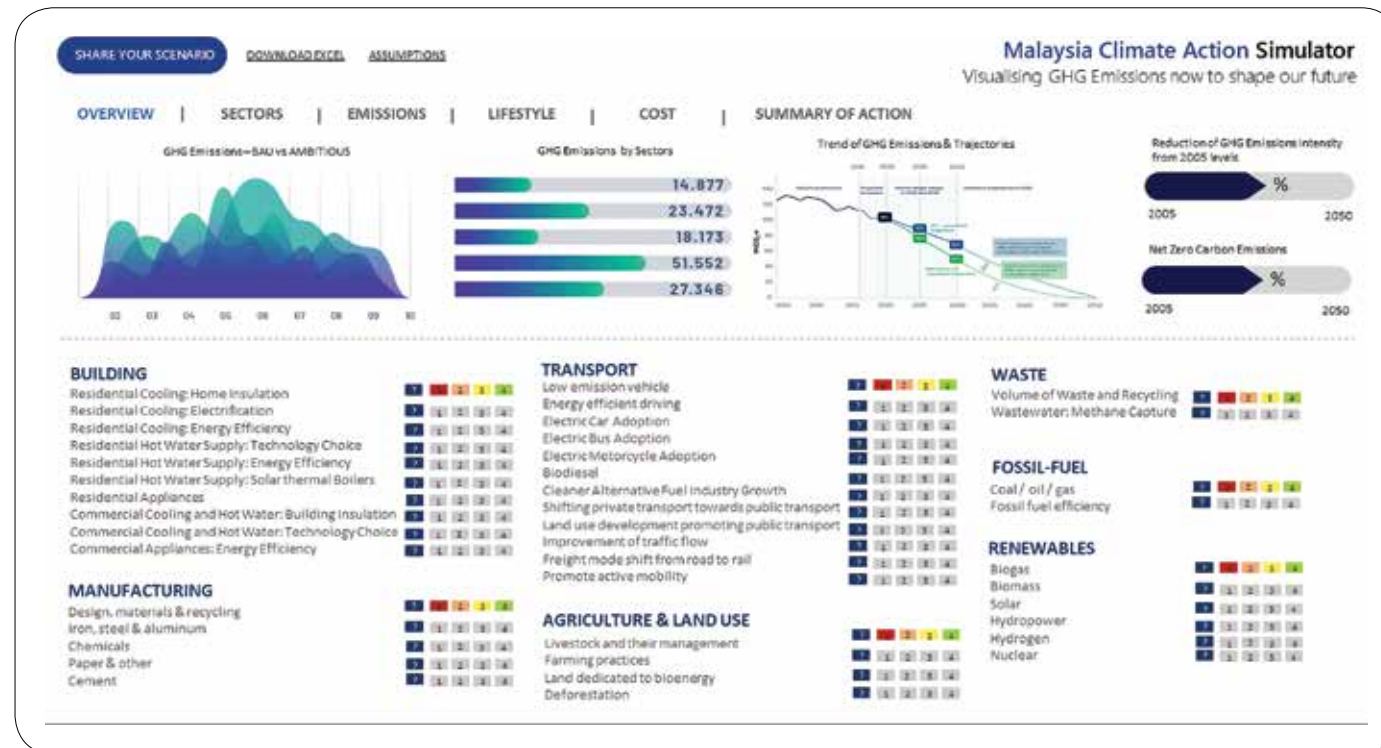
The Global Calculator 2050 is an interactive tool that can be used to explore all the available greenhouse gas emissions reduction options, through changing or transition of technologies, energy generation, land use and lifestyles up to the year 2050. The development of the model was spearheaded by the United Kingdom's Department of Energy and Climate Change (DECC).

The En-ROADS has also been developed to assist decision makers in understanding the dynamics of the climate-energy-land-economic system, focusing specifically on

policy-makers, citizens, and business leaders. The model was created by Climate Interactive, MIT Sloan Sustainability Initiative and Ventana Systems.

Toward creating a localised simulation model for Malaysia, MGTC collaborated with the then Foreign and Commonwealth Office of the United Kingdom, with funding from the UK's Department for Business, Energy and Industrial Strategy (BEIS), to develop Malaysia Climate Action Simulator (MCAS). The project started in November 2019 and is expected to end by April 2021.

MCAS is a simulation tool which allows users to run a series of technically-possible low carbon future scenarios through 2050 to visualise the national greenhouse gas emissions trajectory over time.

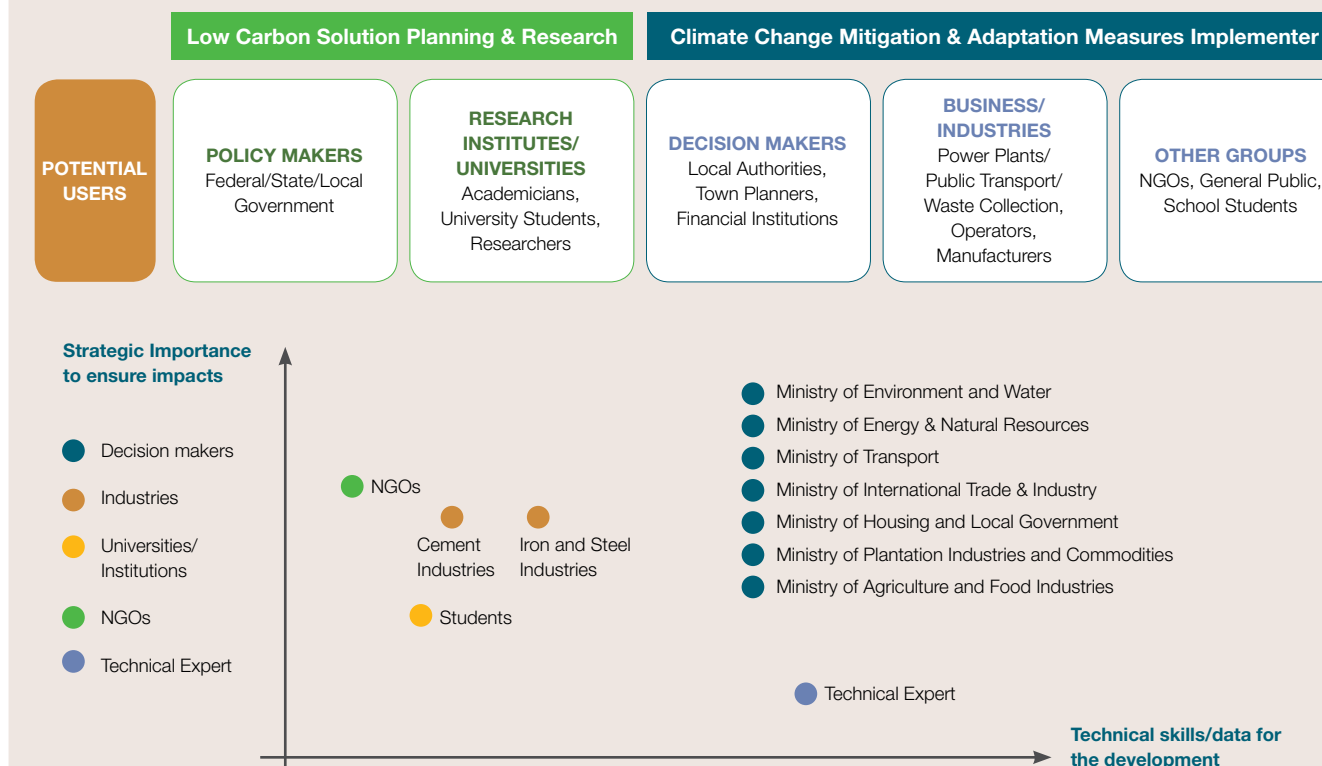


STRATEGIC REVIEW

As a carbon pathway model tool, MCAS can be used to:

1. Raise awareness for policy makers and the general public to understand how the choices (i.e. policies, technologies, behaviours) can impact the national greenhouse gas emissions
2. Provide understanding on the interaction of different sectors (e.g. transport, building and land use)
3. Enable dialogue and discussions across various stakeholders – policy makers, academics, non-governmental organisations and the general public

INTENDED USERS AND APPLICATION



2050 CALCULATOR INTERNATIONAL CONFERENCE (WEBINAR)

Organised by the BEIS with support from the Imperial College London, Ricardo and Climact on 25 - 26 November 2020, this webinar drew participants from the European Union, China, Colombia, Ethiopia, India, Kenya, Malaysia, Nigeria, Philippines, South Africa, Thailand and Vietnam. Green economic recovery and stakeholder engagement were the two key themes of the conference.

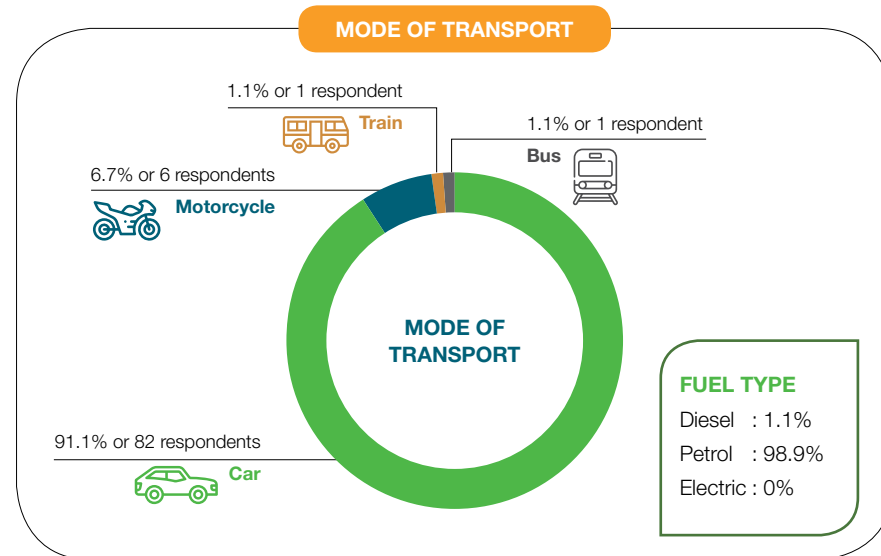
MGTC was invited to speak on Malaysia's journey in developing its own carbon calculator and the progress on the MCAS.

STRATEGIC REVIEW

TRANSPORT CARBON ASSESSMENT FOR MGTC STAFF

Private transport is one of the world's biggest greenhouse gas emissions sources. To determine the carbon footprint contribution from staff travelling to the company, a survey was conducted in May 2020.

Key findings of survey:



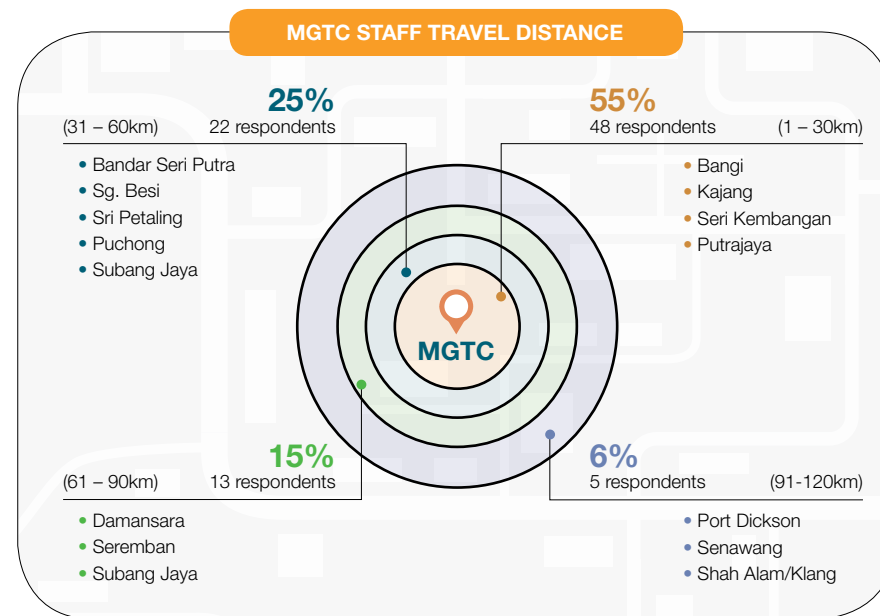
* The assessment is based on 88 submissions

To reduce the greenhouse gas emissions from staff commuting, three mitigation strategies were identified and recommended to MGTC leadership:

1. Work From Home (WFH)
2. Staff carpooling
3. Use of public transport

The WFH strategy was favoured over the other two and as a result, the Flexible Working Arrangement 2.0 Policy was introduced in August 2020 to allow staff to work from home every Friday.

This WFH mitigation measure is expected to achieve a 17% reduction in greenhouse gas emissions from staff travelling, which is approximately 22,600 kgs of carbon dioxide, equivalent to the annual carbon sequestration of 566 mature trees.



* The assessment is based on 88 submissions

TOTAL CARBON EMISSIONS OF MGTC STAFF TRAVELLING TO AND FROM OFFICE



11,285.9 kgCO₂ = Total Monthly Carbon Emissions

Need **282** matured Trees to offset the monthly emissions for period of a year*. Therefore, we need **3,386** trees to offset the yearly emissions for period of a year.

* Considering trees with size >10cm diameter at breast height – approx. 500 trees in a hectare

** The assessment is based on 88 submissions

CALENDAR OF EVENTS 2020

3 JANUARY 2020

COLLABORATION BETWEEN MGTC AND UiTM GESTURZ

MGTC collaborated with Faculty of Art & Design, UiTM Shah Alam, for the Frolic: Brand Architecture Design Showcase at Gesturz, UiTM Shah Alam.



10 JANUARY 2020

DIALOGUE WITH NGOS ON ENVIRONMENT & CLIMATE CHANGE @ MESTECC

MGTC gathered inputs and views from NGOs on RMK12, environmental issues and climate change governance, and worked with NGOs to make MESTECC's initiatives a success.



22 JANUARY 2020

MEMORANDUM OF AGREEMENT BETWEEN MGTC AND INVEST SELANGOR BERHAD

CEOs of MGTC and Invest Selangor Berhad exchanged an MOA announcing Invest Selangor's role in leading the Selangor Week trade and business programme for Expo 2020 Dubai.

22 JANUARY 2020

AMBank GREEN LEADERSHIP TALK

Attended by AmBank Board Members and Senior Management, the Green Leadership Talk was a great platform to share green strategies and exchange ideas and opinions in deliberating the role of financial institutions in supporting the National Green Agenda.



Q1



30 JANUARY 2020

GEO BUILDING VISIT BY ANNA UNIVERSITY, INDIA

MGTC conducted a guided tour of the GEO Building's green features for the Electrical Engineering students of Anna University, India.

6 FEBRUARY 2020

GLOBAL GROWTH ACCELERATION (GGA) KICK OFF 2020

MGTC promoted Malaysia's participation in Expo 2020 Dubai during this programme by MDEC.

CALENDAR OF EVENTS 2020



11 FEBRUARY 2020

MESTECC 2020 INITIATIVE LAUNCH & WALKABOUT CEREMONY

MGTC promoted Malaysia Pavilion's programmes during the event, which was launched by the then MESTECC Minister, YB Yeo Bee Yin.

12 FEBRUARY 2020

APEC PUBLIC-PRIVATE DIALOGUE ON SCIENCE, TECHNOLOGY & INNOVATION: CAPITALISE ON RESEARCH & DEVELOPMENT

The PPSTI Public-Private Dialogue brought together stakeholders in STI including policy makers, researchers, private sector representatives, enablers including technology accelerators and financing institutions, to strengthen the ecosystem in promoting R&D and commercialisation in STI sectors.



25-27 FEBRUARY 2020

E-BUS WEEK @ MGCC



Promoting how green technology can mitigate climate change, the E-BUS Week @ MGCC exposed local authority officers, bus operators, private sector members and others involved in EVs, to the concept of Low Carbon Mobility.



27 FEBRUARY 2020

MYRELAMP PROJECT WORKSHOP

The workshop raised awareness on key components of the MyRelamp lighting retrofit project among the 4 selected pilot local authorities, namely Majlis Bandaraya Ipoh, Majlis Bandaraya Pasir Gudang, Majlis Perbandaran Langkawi Bandaraya Pelancongan and Majlis Daerah Hulu Selangor.

9 MARCH 2020

MOU BETWEEN MGTC, MALAYA GREEN BUILDER ENERGY AND KC EXPRESS CO LTD TAIWAN

The cooperation between MGTC, Malaya Green Builder Energy Sdn Bhd and KC Express Co Ltd, a Taiwan-based company specialising in total mobility solutions, was inked in an MOU to introduce electric buses to help the transformation of Malaysian townships into low carbon cities through foreign direct investments.



16 MARCH 2020

VISIT BY THE HONOURABLE MINISTER OF ENVIRONMENT, YB DATUK TUAN IBRAHIM BIN TUAN MAN TO MGTC



During YBM's first working visit to MGTC upon his appointment as KASA Minister, MGTC Management gave a presentation on the roles, scopes and functions of MGTC.

CALENDAR OF EVENTS 2020



18 JUNE 2020

VISIT BY THE HONOURABLE SENATOR DATO' DR. AHMAD MASRIZAL BIN MUHAMMAD

MGTC welcomed a visit by the Deputy Minister of KASA.

26-27 JUNE 2020

GREEN CAMPUS TOUR WITH YBTM OF KASA

The Honourable Senator Dato' Dr. Ahmad Masrizal bin Muhammad returned to visit MGTC's Centre of Education & Training in Renewable Energy, Energy Efficiency & Green Technology (CETREE) and explore a potential collaboration with USM as part of a social activity engagement to raise environmental awareness within public universities.



Q2



29 JULY 2020

MOU DEVELOPMENT OF COMPREHENSIVE STATE-WIDE GREEN ZONES IN THE STATE OF JOHOR, MALAYSIA

After the MOU signing between MGTC and Perisind Samudra Sdn Bhd (PSSB) on 25-26 July 2020, Phase 1 of the MOU E-Bus Leasing Programme was carried out in Johor Bahru.

12 AUGUST 2020

CELEBRATING INTERNATIONAL YOUTH DAY 2020 WITH YAM TUNKU ZAIN AL-ABIDIN

Malaysia Pavilion's #MyButterflyEffect brand campaign ambassador YAM Tunku Dato Seri Zain Al-Abidin ibni Tuanku Muhriz joined MGTC's Expo 2020 Dubai Celebrates International Youth Day event to recognise youths' butterfly effect on empowering a sustainable world.



Q3

23 AUGUST 2020

CSR PROGRAMME WITH MALAYSIA PAVILION PARTNERS JULIE'S AND NUR MALAYSIA

Julie's Manufacturing, Malaysia Pavilion's industry partner, sponsored 50 hampers while MGTC staff members collected cash and in-kind donations for the residents of Nur Malaysia nursing home as part of the MGTC-Green Touch CSR programme.



26 AUGUST 2020

MGTC MEDIA HI-TEA

Organised at the Mandarin Hotel Kuala Lumpur, KASA's minister and deputy minister together with 60 media practitioners attended the function which aims to strengthen the communications medium to enhance deliverables towards green technology and climate change agenda.

CALENDAR OF EVENTS 2020

25 SEPTEMBER 2020

MASJID HIJAU PROGRAMME LAUNCH

Minister of KASA YB Dato' Sri Tuan Ibrahim bin Tuan Man launched the Green Mosque programme.



17 NOVEMBER 2020

EXPO 2020 DUBAI TOLERANCE AND INCLUSIVITY WEEK TALK BY YAM TUNKU ZAIN

#MyButterflyEffect campaign brand ambassador for Malaysia YAM Tunku Dato Seri Zain Al-Abidin ibni Tuanku Muhriz spoke on the topics of Multiculturalism, Co-existence and Interfaith Understanding, and promoted Malaysia Pavilion.



18 NOVEMBER 2020

NATIONAL ENERGY AWARDS 2020

Winners of the National Energy Awards (NEA) 2020 were announced, recognising organisations that helped transform the country's sustainable energy landscape. The appreciation ceremony was held on 5 April 2021 at The Majestic Hotel Kuala Lumpur.

19 NOVEMBER 2020

VIRTUAL ENGAGEMENT SERIES: CELEBRATE UN WORLD TOILET DAY 2020 WITH CLAYTAN

Malaysia Pavilion held a World Toilet Day programme in conjunction with the 100th Anniversary of Clayton Group, which was officially announced as Malaysia Pavilion's partner and corporate sponsor.



30 NOVEMBER 2020

MOU SIGNING FOR RUMAH IBADAT HIJAU

MOU signing between MGTC and RHB Islamic Bank to collaborate on the Green Mosque initiative to transform over 6,000 mosques in the country to be more eco-friendly.



Q4

19-23 OCTOBER 2020

IGEM 2020

The 12th annual International Greentech & Eco Products Exhibition & Conference Malaysia (IGEM) was held virtually for the first time.



FINANCIAL STATEMENTS

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DIRECTORS' REPORT

The directors hereby submit their report and the audited financial statements of the Group and of the Company for the financial year ended 31 December 2020.

PRINCIPAL ACTIVITIES

The principal activities of the Company is to act as the focal point for the development of green technology in Malaysia by undertaking advisory services, driving and facilitating the implementation and growth of green technology industry and compiling data by way of coordination, development, training, transfer, adoption, research and development, innovation and commercialisation in green technology.

The principal activities of the subsidiaries are set out in Note 5 to the financial statements. There have been no significant changes in the nature of these activities during the financial year.

RESULTS

	THE GROUP RM	THE COMPANY RM
Profit after taxation for the financial year	94,084	111,229

DIVIDENDS

The Company is prohibited from paying any dividend under Section 45(2)(b) of the Companies Act 2016 in Malaysia.

RESERVES AND PROVISIONS

There were no material transfers to or from reserves or provisions during the financial year.

ISSUES OF SHARES AND DEBENTURES

The Company is a company limited by guarantee and does not have any share capital. No debentures have been issued by the Company.

INVESTMENTS

The passive investment only was restricted to fixed deposits and Repo, in accordance to the Constitution of the Company.

DIRECTORS' REPORT (CONT'D)

BAD AND DOUBTFUL DEBTS

Before the financial statements of the Group and the Company were made out, the directors took reasonable steps to ascertain that action had been taken in relation to the writing off of bad debts and the making of allowance for impairment losses on receivables and satisfied themselves that there are no known bad debts and that no allowance for impairment losses on receivables is required.

At the date of this report, the directors are not aware of any circumstances that would require the writing off of bad debts, or the allowance for impairment losses on receivables in the financial statements of the Group and of the Company.

CURRENT ASSETS

Before the financial statements of the Group and of the Company were made out, the directors took reasonable steps to ensure that any current assets, which were unlikely to be realised in the ordinary course of business, including their value as shown in the accounting records of the Group and of the Company, have been written down to an amount which they might be expected so to realise.

At the date of this report, the directors are not aware of any circumstances which would render the values attributed to the current assets in the financial statements misleading.

VALUATION METHODS

At the date of this report, the directors are not aware of any circumstances which have arisen which render adherence to the existing methods of valuation of assets or liabilities of the Group and of the Company misleading or inappropriate.

CONTINGENT AND OTHER LIABILITIES

At the date of this report, there does not exist:-

- (a) any charge on the assets of the Group and of the Company that has arisen since the end of the financial year which secures the liabilities of any other person; or
- (b) any contingent liability of the Group and of the Company which has arisen since the end of the financial year.

No contingent or other liability of the Group and of the Company has become enforceable or is likely to become enforceable within the period of twelve months after the end of the financial year which, in the opinion of the directors, will or may substantially affect the ability of the Group and of the Company to meet their obligations when they fall due.

DIRECTORS' REPORT

(CONT'D)

CHANGE OF CIRCUMSTANCES

At the date of this report, the directors are not aware of any circumstances not otherwise dealt with in this report or the financial statements of the Group and of the Company which would render any amount stated in the financial statements misleading.

ITEMS OF AN UNUSUAL NATURE

The results of the operations of the Group and of the Company during the financial year were not, in the opinion of the directors, substantially affected by any item, transaction or event of a material and unusual nature.

There has not arisen in the interval between the end of the financial year and the date of this report any item, transaction or event of a material and unusual nature likely, in the opinion of the directors, to affect substantially the results of the operations of the Group and of the Company for the financial year in which this report is made.

DIRECTORS

The names of directors of the Company who served during the financial year and up to the date of this report are as follows:-

Datuk Wira Jalilah Binti Baba
 Professor Dato' Ir. Dr. A Bakar Bin Jaafar
 Dr. Nagulendran A/L Kangayatkarasu
 Datuk Hiswani Binti Harun
 Dato' Leong Kin Mun (Appointed on 8.9.2020)
 Ahmad Kamal Bin Wasis @ Waksis (Ceased on 22.6.2020)
 Hartini Binti Mohd Nasir (Resigned on 19.5.2020)

The names of directors of the Company's subsidiaries who served during the financial year and up to the date of this report, not including those directors mentioned above, are as follows:-

T/Sharifah Hanif Binti Tengku Hamzah
 Noor Azmin Azali Bin Ramli
 Syed Ahmad Bin Syed Mustafa

DIRECTORS' REPORT

(CONT'D)

DIRECTORS' INTERESTS

The Company is a company limited by guarantee and does not have any share capital.

DIRECTORS' BENEFITS

Since the end of the previous financial year, no director has received or become entitled to receive any benefit by reason of a contract made by the Company or a related corporation with the director or with a firm of which the director is a member, or with a company in which the director has a substantial financial interest.

Neither during nor at the end of the financial year was the Group or the Company a party to any arrangements whose object is to enable the directors to acquire benefits by means of the acquisition of shares in or debentures of the Company or any other body corporate.

DIRECTORS' REMUNERATION

There were no directors' remuneration paid or payable during the financial year.

INDEMNITY AND INSURANCE COST

During the financial year, there is no indemnity given to or professional indemnity insurance effected for directors, officers or auditors of the Company.

SUBSIDIARIES

The details of the Company's subsidiaries are disclosed in Note 5 to the financial statements.

SIGNIFICANT EVENT DURING THE FINANCIAL YEAR

The significant event during the financial year is disclosed in Note 27 to the financial statements.

DIRECTORS' REPORT

(CONT'D)

AUDITORS

The auditors, Crowe Malaysia PLT, have expressed their willingness to continue in office.

The details of the auditors' remuneration are disclosed in Note 22 to the financial statements.

Signed in accordance with a resolution of the directors dated 31 May 2021.



Datuk Wira Jalilah Binti Baba



Professor Dato' Ir. Dr. A Bakar Bin Jaafar

STATEMENT BY DIRECTORS

PURSUANT TO SECTION 251(2) OF THE COMPANIES ACT 2016

We, Datuk Wira Jalilah Binti Baba and Professor Dato' Ir. Dr. A Bakar Bin Jaafar, being two of the directors of Malaysian Green Technology And Climate Change Centre, state that, in the opinion of the directors, the financial statements set out on pages 106 to 153 are drawn up in accordance with Malaysian Financial Reporting Standards, International Financial Reporting Standards and the requirements of the Companies Act 2016 in Malaysia so as to give a true and fair view of the financial position of the Group and of the Company as of 31 December 2020 and of their financial performance and cash flows for the financial year ended on that date.

Signed in accordance with a resolution of the directors dated 31 May 2021.



Datuk Wira Jalilah Binti Baba



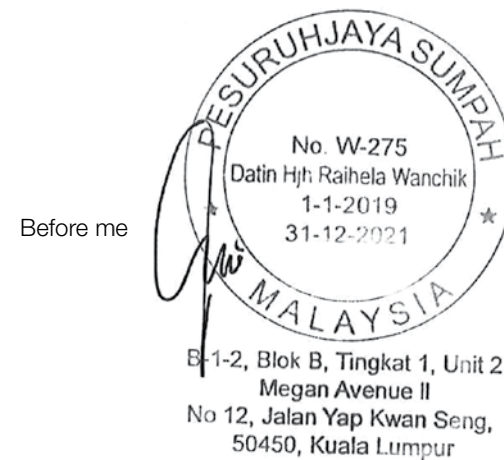
Professor Dato' Ir. Dr. A Bakar Bin Jaafar

STATUTORY DECLARATION

PURSUANT TO SECTION 251(2) OF THE COMPANIES ACT 2016

I, Shamsul Bahar Mohd Nor, being the officer primarily responsible for the financial management of Malaysian Green Technology And Climate Change Centre, do solemnly and sincerely declare that the financial statements set out on pages 106 to 153 are, to the best of my knowledge and belief, correct and I make this solemn declaration conscientiously believing the declaration to be true, and by virtue of the Statutory Declarations Act 1960.

Subscribed and solemnly declared by the abovementioned
Shamsul Bahar Mohd Nor, NRIC Number: 640221-08-5905,
at Kuala Lumpur
in the Federal Territory
on this 31 May 2021



Shamsul Bahar Mohd Nor

INDEPENDENT AUDITORS' REPORT

TO THE MEMBERS OF MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE

REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS

Opinion

We have audited the financial statements of Malaysian Green Technology And Climate Change Centre, which comprise the statements of financial position as at 31 December 2020 of the Group and of the Company, and the statements of profit or loss and other comprehensive income, statements of changes in equity and statements of cash flows of the Group and of the Company for the financial year then ended, and notes to the financial statements, including a summary of significant accounting policies, as set out on pages 106 to 153.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of the Group and of the Company as at 31 December 2020, and of their financial performance and their cash flows for the financial year then ended in accordance with Malaysian Financial Reporting Standards, International Financial Reporting Standards and the requirements of the Companies Act 2016 in Malaysia.

Basis for Opinion

We conducted our audit in accordance with approved standards on auditing in Malaysia and International Standards on Auditing. Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Financial Statements* section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence and Other Ethical Responsibilities

We are independent of the Group and of the Company in accordance with the *By-Laws (on Professional Ethics, Conduct and Practice)* of the Malaysian Institute of Accountants ("By-Laws") and the International Ethics Standards Board for *Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards)* ("IESBA Code"), and we have fulfilled our other ethical responsibilities in accordance with the By-Laws and the IESBA Code.

Information Other than the Financial Statements and Auditors' Report Thereon

The directors of the Company are responsible for the other information. The other information comprises the Directors' Report, but does not include the financial statements of the Group and of the Company and our auditors' report thereon.

Our opinion on the financial statements of the Group and of the Company does not cover the Directors' Report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements of the Group and of the Company, our responsibility is to read the Directors' Report and, in doing so, consider whether the Directors' Report is materially inconsistent with the financial statements of the Group and of the Company or our knowledge obtained in the audit or otherwise appears to be materially misstated.

INDEPENDENT AUDITORS' REPORT

TO THE MEMBERS OF MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE

(CONT'D)

Information Other than the Financial Statements and Auditors' Report Thereon (Cont'd)

If, based on the work we have performed, we conclude that there is a material misstatement of this Directors' Report, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Directors for the Financial Statements

The directors of the Company are responsible for the preparation of the financial statements of the Group and of the Company that give a true and fair view in accordance with Malaysian Financial Reporting Standards, International Financial Reporting Standards and the requirements of the Companies Act 2016 in Malaysia. The directors are also responsible for such internal control as the directors determine is necessary to enable the preparation of financial statements of the Group and of the Company that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements of the Group and of the Company, the directors are responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group and the Company or to cease operations, or have no realistic alternative but to do so.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements of the Group and of the Company as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with approved standards on auditing in Malaysia and International Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with approved standards on auditing in Malaysia and International Standards on Auditing, we exercise professional judgement and maintain professional skepticism throughout the audit. We also:-

- Identify and assess the risks of material misstatement of the financial statements of the Group and of the Company, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.

INDEPENDENT AUDITORS' REPORT

TO THE MEMBERS OF MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE

(CONT'D)

Auditors' Responsibilities for the Audit of the Financial Statements (Cont'd)

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.
- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's or the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements of the Group and of the Company or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group or the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements of the Group and of the Company, including the disclosures, and whether the financial statements of the Group and of the Company represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the financial statements of the Group. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

OTHER MATTERS

This report is made solely to the members of the Company, as a body, in accordance with Section 266 of the Companies Act 2016 in Malaysia and for no other purpose. We do not assume responsibility to any other person for the content of this report.



Crowe Malaysia PLT
201906000005 (LLP0018817-LCA) & AF 1018
Chartered Accountants

Kuala Lumpur
31 May 2021



Ooi Song Wan
02901/10/2022 J
Chartered Accountant

STATEMENTS OF FINANCIAL POSITION

AS AT 31 DECEMBER 2020

	NOTE	THE GROUP 2020 RM	2019 RM	THE COMPANY 2020 RM	2019 RM
ASSETS					
NON-CURRENT ASSETS					
Investment in subsidiaries	5	–	–	2,500,000	2,500,000
Property and equipment	6	14,560,968	14,936,844	14,560,968	14,936,844
Right-of-use assets	7	2,905,837	2,958,252	2,905,837	2,958,252
Deferred expenditure		3,013,401	4,449,975	3,013,401	4,449,975
		20,480,206	22,345,071	22,980,206	24,845,071
CURRENT ASSETS					
Trade receivables	8	7,261,334	4,200,029	7,261,334	4,200,029
Other receivables, deposits and prepayments	9	1,239,693	845,286	1,239,693	845,286
Amount owing by subsidiaries	10	–	–	482,813	465,059
Current tax assets		132,397	266,397	132,397	266,397
Fixed deposits with a licensed bank	11	68,206,553	49,676,707	68,206,553	49,676,707
Cash and bank balances		5,181,861	5,664,072	2,659,220	3,141,431
		82,021,838	60,652,491	79,982,010	58,594,909
TOTAL ASSETS		102,502,044	82,997,562	102,962,216	83,439,980

STATEMENTS OF FINANCIAL POSITION

AS AT 31 DECEMBER 2020

(CONT'D)

	NOTE	THE GROUP 2020 RM	2019 RM	THE COMPANY 2020 RM	2019 RM
EQUITY AND LIABILITIES					
EQUITY					
Retained profits	12	25,306,167	25,212,083	25,804,655	25,693,426
NON-CURRENT LIABILITIES					
Government grants	13	29,190,226	27,681,924	29,190,226	27,681,924
Deferred income	14	667,350	560,804	667,350	560,804
Building fund	15	15,467,306	16,168,308	15,467,306	16,168,308
Lease liabilities	16	27,824	36,778	27,824	36,778
		45,352,706	44,447,814	45,352,706	44,447,814
CURRENT LIABILITIES					
Trade payables	17	5,419,120	8,355,703	5,419,120	8,355,703
Other payables and accruals	18	26,415,097	4,963,620	26,376,781	4,924,695
Lease liabilities	16	8,954	18,342	8,954	18,342
		31,843,171	13,337,665	31,804,855	13,298,740
TOTAL LIABILITIES		77,195,877	57,785,479	77,157,561	57,746,554
TOTAL EQUITY AND LIABILITIES		102,502,044	82,997,562	102,962,216	83,439,980

The annexed notes form an integral part of these financial statements.

STATEMENTS OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020

	NOTE	THE GROUP 2020 RM	2019 RM	THE COMPANY 2020 RM	2019 RM
REVENUE	19	5,899,252	10,556,294	5,899,252	10,556,294
COST OF SALES	20	(2,446,741)	(5,541,875)	(2,446,741)	(5,541,875)
GROSS PROFIT		3,452,511	5,014,419	3,452,511	5,014,419
OPERATING GRANT		3,800,000	4,500,000	3,800,000	4,500,000
OTHER INCOME	21	47,416,507	13,465,356	47,416,507	13,465,356
ADMINISTRATIVE EXPENSES	22	(53,575,674)	(20,627,056)	(53,558,529)	(20,585,163)
OTHER EXPENSES		(644,748)	(731,728)	(644,748)	(731,728)
FINANCE COST		(1,578)	(2,209)	(1,578)	(2,209)
PROFIT BEFORE TAXATION		447,018	1,618,782	464,163	1,660,675
INCOME TAX EXPENSE	23	(352,934)	(694,414)	(352,934)	(694,414)
PROFIT AFTER TAXATION		94,084	924,368	111,229	966,261
OTHER COMPREHENSIVE INCOME		-	-	-	-
TOTAL COMPREHENSIVE INCOME FOR THE FINANCIAL YEAR		94,084	924,368	111,229	966,261
PROFIT AFTER TAXATION ATTRIBUTABLE TO:- Owner of the Company		94,084	924,368	111,229	966,261
TOTAL COMPREHENSIVE INCOME ATTRIBUTABLE TO:- Owner of the Company		94,084	924,368	111,229	966,261

The annexed notes form an integral part of these financial statements.

STATEMENTS OF CHANGES IN EQUITY

FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020

	RETAINED PROFITS RM	TOTAL EQUITY RM
The Group		
Balance at 1.1.2019	24,287,715	24,287,715
Profit after taxation for the financial year/Total comprehensive income for the financial year	924,368	924,368
Balance at 31.12.2019/1.1.2020	25,212,083	25,212,083
Profit after taxation for the financial year/Total comprehensive income for the financial year	94,084	94,084
Balance at 31.12.2020	25,306,167	25,306,167
	RETAINED PROFITS RM	TOTAL EQUITY RM
The Company		
Balance at 1.1.2019	24,727,165	24,727,165
Profit after taxation for the financial year/Total comprehensive income for the financial year	966,261	966,261
Balance at 31.12.2019/1.1.2020	25,693,426	25,693,426
Profit after taxation for the financial year/Total comprehensive income for the financial year	111,229	111,229
Balance at 31.12.2020	25,804,655	25,804,655

The annexed notes form an integral part of these financial statements.

STATEMENTS OF CASH FLOWS

FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020

	NOTE	THE GROUP 2020 RM	2019 RM	THE COMPANY 2020 RM	2019 RM
CASH FLOWS FROM OPERATING ACTIVITIES					
Profit before taxation		447,018	1,618,782	464,163	1,660,675
Adjustments for:-					
Depreciation of property and equipment		592,333	679,312	592,333	679,312
Depreciation of right-of-use assets		52,415	52,416	52,415	52,416
Amortisation of building fund		(701,002)	(701,255)	(701,002)	(701,255)
Gain on disposal of equipment		-	(2,967)	-	(2,967)
Interest income		(1,395,969)	(1,985,175)	(1,395,969)	(1,985,175)
Interest expenses		1,578	2,209	1,578	2,209
Operating loss before working capital changes		(1,003,627)	(336,678)	(986,482)	(294,785)
Decrease/(Increase) in deferred expenditure		1,436,574	(3,418,070)	1,436,574	(3,418,070)
Increase in deferred income		106,546	130,786	106,546	130,786
(Increase)/Decrease in trade and other receivables		(3,455,712)	3,082,060	(3,455,712)	2,968,271
Increase in trade and other payables		18,514,894	3,958,865	18,515,503	3,992,801
(Increase)/Decrease in amount owing by subsidiaries		-	-	(17,754)	41,281
Decrease in amount owing to a related party		-	(14,840)	-	(14,840)
CASH FROM OPERATIONS		15,598,675	3,402,123	15,598,675	3,405,444
Income tax paid		(218,934)	(542,414)	(218,934)	(542,414)
NET CASH FROM OPERATING ACTIVITIES		15,379,741	2,859,709	15,379,741	2,863,030

STATEMENTS OF CASH FLOWS

FOR THE FINANCIAL YEAR ENDED 31 DECEMBER 2020
(CONT'D)

	NOTE	THE GROUP 2020 RM	2019 RM	THE COMPANY 2020 RM	2019 RM
CASH FLOWS FROM INVESTING ACTIVITIES					
Interest received		1,395,969	1,985,175	1,395,969	1,985,175
Decrease in fixed deposits with a licensed bank with tenure more than 3 months		20,011,546	9,685,680	20,011,546	9,685,680
Decrease/(Increase) in pledged fixed deposits with a licensed bank		38,033	(987,450)	38,033	(987,450)
Proceed from disposal of equipment		-	2,996	-	2,996
Purchase of equipment		(216,457)	(87,718)	(216,457)	(87,718)
Proceed from disposal of investment in a joint venture		-	5,173	-	-
NET CASH FROM INVESTING ACTIVITIES		21,229,091	10,603,856	21,229,091	10,598,683
CASH FLOWS FROM FINANCING ACTIVITIES					
Interest paid	24(a)	(1,578)	(2,209)	(1,578)	(2,209)
Net addition of government grants		1,508,302	11,706,779	1,508,302	11,706,779
Repayment of lease liabilities	24(a)	(18,342)	(17,711)	(18,342)	(17,711)
NET CASH FROM FINANCING ACTIVITIES		1,488,382	11,686,859	1,488,382	11,686,859
NET INCREASE IN CASH AND CASH EQUIVALENTS		38,097,214	25,150,424	38,097,214	25,148,572
CASH AND CASH EQUIVALENTS AT BEGINNING OF THE FINANCIAL YEAR		33,854,694	8,704,270	31,332,053	6,183,481
CASH AND CASH EQUIVALENTS AT END OF THE FINANCIAL YEAR	24(b)	71,951,908	33,854,694	69,429,267	31,332,053

The annexed notes form an integral part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

1. GENERAL INFORMATION

The Company is a company limited by guarantee and domiciled in Malaysia. The registered office and principal place of business are as follows:-

Registered office	:	Suite C-5-4, Wisma Goshen, Plaza Pantai, Jalan Pantai Baharu, 59200 Kuala Lumpur.
Principal place of business	:	No. 2, Jalan 9/10 Persiaran Usahawan, Seksyen 9, Bandar Baru Bangi, 43650 Selangor Darul Ehsan.

The financial statements were authorised for issue by the Board of Directors in accordance with a resolution of the directors dated 31 May 2021.

2. PRINCIPAL ACTIVITIES

The principal activities of the Company is to act as the focal point for the development of green technology in Malaysia by undertaking advisory services, driving and facilitating the implementation and growth of green technology industry and compiling data by way of coordination, development, training, transfer, adoption, research and development, innovation and commercialisation in green technology.

The principal activities of the subsidiaries are set out in Note 5 to the financial statements. There have been no significant changes in the nature of these activities during the financial year.

3. BASIS OF PREPARATION

The financial statements of the Group are prepared under the historical cost convention and modified to include other bases of valuation as disclosed in other sections under significant accounting policies, and in compliance with Malaysian Financial Reporting Standards ("MFRSs"), International Financial Reporting Standards and the requirements of the Companies Act 2016 in Malaysia.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020 (CONT'D)

3. BASIS OF PREPARATION (CONT'D)

3.1 During the current financial year, the Group has adopted the following new accounting standards and interpretations (including the consequential amendments, if any):-

MFRSs and/or IC Interpretations (Including The Consequential Amendments)

Amendments to MFRS 3: Definition of a Business
Amendments to MFRS 4: Extension of the Temporary Exemption from Applying MFRS 9
Amendments to MFRS 9, MFRS 139 and MFRS 7: Interest Rate Benchmark Reform
Amendment to MFRS 16: Covid-19-Related Rent Concessions
Amendments to MFRS 101 and MFRS 108: Definition of Material
Amendments to References to the Conceptual Framework in MFRS Standards

The adoption of the above accounting standards and interpretations (including the consequential amendments, if any) did not have any material impact on the Group's financial statements.

3.2 The Group has not applied in advance the following accounting standards and/or interpretations (including the consequential amendments, if any) that have been issued by the Malaysian Accounting Standards Board (MASB) but are not yet effective for the current financial year:-

MFRSS AND/OR IC INTERPRETATIONS (INCLUDING THE CONSEQUENTIAL AMENDMENTS)

EFFECTIVE DATE

MFRS 17 Insurance Contracts	1 January 2023
Amendments to MFRS 3: Reference to the Conceptual Framework	1 January 2022
Amendments to MFRS 9, MFRS 139, MFRS 7, MFRS 4 and MFRS 16: Interest Rate Benchmark Reform – Phase 2	1 January 2021
Amendments to MFRS 10 and MFRS 128: Sale or Contribution of Assets between an Investor and its Associate or Joint Venture	Deferred
Amendment to MFRS 16: Covid-19-Related Rent Concessions	1 June 2020
Amendment to MFRS 16: Covid-19-Related Rent Concessions beyond 30 June 2021	1 April 2021
Amendments to MFRS 17 Insurance Contracts	1 January 2023
Amendment to MFRS 101: Classification of Liabilities as Current or Non-current	1 January 2023
Amendments to MFRS 101: Disclosure of Accounting Policies	1 January 2023
Amendments to MFRS 108: Definition of Accounting Estimates	1 January 2023
Amendments to MFRS 116: Property, Plant and Equipment – Proceeds before Intended Use	1 January 2022
Amendments to MFRS 137: Onerous Contracts – Cost of Fulfilling a Contract	1 January 2022
Annual Improvements to MFRS Standards 2018 – 2020	1 January 2022

The adoption of the above accounting standards and/or interpretations (including the consequential amendments, if any) is expected to have no material impact on the financial statements of the Group upon their initial application.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES

4.1 CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The outbreak of the COVID-19 has brought unprecedented challenges and added economic uncertainties in Malaysia and markets in which the Group operates. While the Group has considered the potential financial impact of the COVID-19 pandemic in the preparation of these financial statements, the full financial impact to the Group remains uncertain. Accordingly, there is a possibility that factors not currently anticipated by management could occur in the future and therefore affect the recognition and measurement of the Group's assets and liabilities at the reporting date.

Key Sources of Estimation Uncertainty

Management believes that there are no key assumptions made concerning the future, and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year other than as disclosed below:-

(a) Depreciation of Property and Equipment

The estimates for the residual values, useful lives and related depreciation charges for the property and equipment are based on commercial factors which could change significantly as a result of technical innovations and competitors' actions in response to the market conditions. The Group anticipates that the residual values of its property and equipment will be insignificant. As a result, residual values are not being taken into consideration for the computation of the depreciable amount. Changes in the expected level of usage and technological development could impact the economic useful lives and the residual values of these assets, therefore future depreciation charges could be revised. The carrying amount of property and equipment as at the reporting date is disclosed in Note 6 to the financial statements.

(b) Impairment of Other Non-financial Assets

The Group determines whether an item of its non-financial assets is impaired by evaluating the extent to which the recoverable amount of the asset is less than its carrying amount. This evaluation is subject to changes such as market performance, economic and political situation of the country. A variety of methods is used to determine the recoverable amount, such as valuation reports and discounted cash flows which are subject to higher degree of estimation uncertainties due to uncertainty on how the COVID-19 pandemic may progress and evolve and volatility in markets in which the Group operates.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.1 CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS (CONT'D)

Key Sources of Estimation Uncertainty (Cont'd)

(c) Impairment of Trade Receivables

The Group uses the simplified approach to estimate a lifetime expected credit loss allowance for all trade receivables. The Group develops the expected loss rates based on the payment profiles of past sales including changes in the customer payment profile in response to the COVID-19 pandemic and the corresponding historical credit losses, and adjusts for qualitative and quantitative reasonable and supportable forward-looking information. If the expectation is different from the estimation, such difference will impact the carrying value of trade receivables. The carrying amounts of trade receivables as at the reporting date are disclosed in Note 8 to the financial statements.

(d) Impairment of Non-Trade Receivables

The loss allowances for non-trade financial assets are based on assumptions about risk of default and expected loss rates. It also requires the Group to assess whether there is a significant increase in credit risk of the non-trade financial asset at the reporting date. The Group uses judgement in making these assumptions and selecting appropriate inputs to the impairment calculation, based on the past payment trends, existing market conditions and forward-looking information incorporating the impact of COVID-19 pandemic. The carrying amounts of other receivables and amounts owing by subsidiaries as at the reporting date are disclosed in Notes 9 and 10 to the financial statements respectively.

(e) Income Taxes

There are certain transactions and computations for which the ultimate tax determination may be different from the initial estimate. The Group recognises tax liabilities based on its understanding of the prevailing tax laws and estimates of whether such taxes will be due in the ordinary course of business. Where the final outcome of these matters is different from the amounts that were initially recognised, such difference will impact the income tax expense and deferred tax balances in the period in which such determination is made.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.1 CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS (CONT'D)

Critical Judgements Made in Applying Accounting Policies

Management believes that there are no instances of application of critical judgement in applying the Group's accounting policies which will have a significant effect on the amounts recognised in the financial statements.

4.2 BASIS OF CONSOLIDATION

The consolidated financial statements include the financial statements of the Company and its subsidiaries made up to the end of the reporting period.

Subsidiaries are entities controlled by the Group. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Potential voting rights are considered when assessing control only when such rights are substantive. The Group also considers it has de facto power over an investee when, despite not having the majority of voting rights, it has the current ability to direct the activities of the investee that significantly affect the investee's return.

Subsidiaries are consolidated from the date on which control is transferred to the Group up to the effective date on which control ceases, as appropriate.

Intragroup transactions, balances, income and expenses are eliminated on consolidation. Intragroup losses may indicate an impairment that requires recognition in the consolidated financial statements. Where necessary, adjustments are made to the financial statements of subsidiaries to ensure consistency of accounting policies with those of the Group.

(a) Business Combinations

Acquisitions of businesses are accounted for using the acquisition method. Under the acquisition method, the consideration transferred for acquisition of a subsidiary is the fair value of the assets transferred, liabilities incurred and the equity interests issued by the Group at the acquisition date. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Acquisition-related costs, other than the costs to issue debt or equity securities, are recognised in profit or loss when incurred.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.2 BASIS OF CONSOLIDATION (CONT'D)

(a) Business Combinations (Cont'd)

In a business combination achieved in stages, previously held equity interests in the acquiree are remeasured to fair value at the acquisition date and any corresponding gain or loss is recognised in profit or loss.

Non-controlling interests in the acquiree may be initially measured either at fair value or at the non-controlling interests' proportionate share of the fair value of the acquiree's identifiable net assets at the date of acquisition. The choice of measurement basis is made on a transaction-by-transaction basis.

(b) Non-controlling Interests

Non-controlling interests are presented within equity in the consolidated statement of financial position, separately from the equity attributable to owners of the Company. Profit or loss and each component of other comprehensive income are attributed to the owners of the Company and to the non-controlling interests. Total comprehensive income is attributed to non-controlling interests even if this results in the non-controlling interests having a deficit balance.

(c) Changes in Ownership Interests in Subsidiaries without Change of Control

All changes in the parent's ownership interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions. Any difference between the amount by which the non-controlling interest is adjusted and the fair value of consideration paid or received is recognised directly in equity of the Group.

(d) Loss of Control

Upon the loss of control of a subsidiary, the Group recognises any gain or loss on disposal in profit or loss which is calculated as the difference between:-

- (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest in the former subsidiary; and
- (ii) the previous carrying amount of the assets (including goodwill), and liabilities of the former subsidiary and any non-controlling interests.

Amounts previously recognised in other comprehensive income in relation to the former subsidiary are accounted for in the same manner as would be required if the relevant assets or liabilities were disposed of (i.e. reclassified to profit or loss or transferred directly to retained profits). The fair value of any investments retained in the former subsidiary at the date when control is lost is regarded as the fair value of the initial recognition for subsequent accounting under MFRS 9 or, when applicable, the cost on initial recognition of an investment in an associate or a joint venture.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020
(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.3 FUNCTIONAL AND FOREIGN CURRENCIES

(a) Functional and Presentation Currency

The individual financial statements of each entity in the Group are presented in the currency of the primary economic environment in which the entity operates, which is the functional currency.

The consolidated financial statements are presented in Ringgit Malaysia ("RM"), which is the Group's functional and presentation currency.

(b) Foreign Currency Transactions and Balances

Transactions in foreign currencies are converted into the respective functional currencies on initial recognition, using the exchange rates at the transaction dates. Monetary assets and liabilities at the end of the reporting period are translated at the exchange rates ruling as of that date. Non-monetary assets and liabilities are translated using exchange rates that existed when the values were determined. All exchange differences are recognised in profit or loss.

4.4 FINANCIAL INSTRUMENTS

Financial assets and financial liabilities are recognised in the statement of financial position when the Group has become a party to the contractual provisions of the instruments.

Financial instruments are classified as financial assets, financial liabilities or equity instruments in accordance with the substance of the contractual arrangement and its definitions in MFRS 132. Interest, dividends, gains and losses relating to a financial instrument classified as liability are reported as an expense or income. Distributions to holders of financial instruments classified as equity are charged directly to equity.

Financial instruments are offset when the Group has a legally enforceable right to offset and intends to settle either on a net basis or to realise the asset and settle the liability simultaneously.

A financial instrument is recognised initially at its fair value (other than trade receivables without significant financing component which are measured at transaction price as defined in MFRS 15 at inception). Transaction costs that are directly attributable to the acquisition or issue of the financial instrument (other than a financial instrument at fair value through profit or loss) are added to/deducted from the fair value on initial recognition, as appropriate. Transaction costs on the financial instrument at fair value through profit or loss are recognised immediately in profit or loss.

Financial instruments recognised in the statements of financial position are disclosed in the individual policy statement associated with each item.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020
(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.4 FINANCIAL INSTRUMENTS (CONT'D)

(a) Financial Assets

All recognised financial assets are measured subsequently in their entirety at either amortised cost or fair value (through profit or loss, or other comprehensive income), depending on the classification of the financial assets.

Debt Instruments

(i) Amortised Cost

The financial asset is held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest. Interest income is recognised by applying the effective interest rate to the gross carrying amount of the financial asset. When the asset has subsequently become credit-impaired, the interest income is recognised by applying the effective interest rate to the amortised cost of the financial asset.

The effective interest method is a method of calculating the amortised cost of a financial asset and of allocating interest income over the relevant period. The effective interest rate is the rate that discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts), excluding expected credit losses, through the expected life of the financial asset or a shorter period (where appropriate).

(ii) Fair Value through Other Comprehensive Income

The financial asset is held for both collecting contractual cash flows and selling the financial asset, where the asset's cash flows represent solely payments of principal and interest. Movements in the carrying amount are taken through other comprehensive income and accumulated in the fair value reserve, except for the recognition of impairment, interest income and foreign exchange difference which are recognised directly in profit or loss. Interest income is calculated using the effective interest rate method.

(iii) Fair Value through Profit or Loss

All other financial assets that do not meet the criteria for amortised cost or fair value through other comprehensive income are measured at fair value through profit or loss. The fair value changes do not include interest or dividend income.

The Group reclassifies debt instruments when and only when its business model for managing those assets change.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.4 FINANCIAL INSTRUMENTS (CONT'D)

(a) Financial Assets (Cont'd)

Equity Instruments

All equity investments are subsequently measured at fair value with gains and losses recognised in profit or loss except where the Group has elected to present the subsequent changes in fair value in other comprehensive income and accumulated in the fair value reserve at initial recognition.

The designation at fair value through other comprehensive income is not permitted if the equity investment is either held for trading or is designated to eliminate or significantly reduce a measurement or recognition inconsistency that would otherwise arise.

Dividend income from this category of financial assets is recognised in profit or loss when the Group's right to receive payment is established unless the dividends clearly represent a recovery of part of the cost of the equity investments.

(b) Financial Liabilities

(i) Financial Liabilities at Fair Value through Profit or Loss

Fair value through profit or loss category comprises financial liabilities that are either held for trading or are designated to eliminate or significantly reduce a measurement or recognition inconsistency that would otherwise arise. The changes in fair value (excluding interest expense) of these financial liabilities are recognised in profit or loss.

(ii) Other Financial Liabilities

Other financial liabilities are subsequently measured at amortised cost using the effective interest method.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts), through the expected life of the financial liability or a shorter period (where appropriate).

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.4 FINANCIAL INSTRUMENTS (CONT'D)

(c) Equity Instruments

Equity instruments classified as equity are measured initially at cost and are not remeasured subsequently.

(d) Derecognition

A financial asset or part of it is derecognised when, and only when, the contractual rights to the cash flows from the financial asset expire or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. On derecognition of a financial asset measured at amortised cost, the difference between the carrying amount of the asset and the sum of the consideration received and receivable is recognised in profit or loss. In addition, on derecognition of a debt instrument classified as fair value through other comprehensive income, the cumulative gain or loss previously accumulated in the fair value reserve is reclassified from equity to profit or loss. In contrast, there is no subsequent reclassification of the fair value reserve to profit or loss following the derecognition of an equity investment.

A financial liability or a part of it is derecognised when, and only when, the obligation specified in the contract is discharged or cancelled or expires. On derecognition of a financial liability, the difference between the carrying amount of the financial liability extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognised in profit or loss.

4.5 INVESTMENTS IN SUBSIDIARIES

Investments in subsidiaries are stated at cost in the statement of financial position of the Company, and are reviewed for impairment at the end of the reporting period if events or changes in circumstances indicate that the carrying values may not be recoverable. The cost of the investments includes transaction costs.

On the disposal of the investments in subsidiaries, the difference between the net disposal proceeds and the carrying amount of the investments is recognised in profit or loss.

4.6 PROPERTY AND EQUIPMENT

All items of property and equipment are initially measured at cost. Cost includes expenditure that is directly attributable to the acquisition of the asset and other costs directly attributable to bringing the asset to working condition for its intended use.

Subsequent to initial recognition, all property and equipment are stated at cost less accumulated depreciation and any impairment losses.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.6 PROPERTY AND EQUIPMENT (CONT'D)

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when the cost is incurred and it is probable that the future economic benefits associated with the asset will flow to the Group and the cost of the asset can be measured reliably. The carrying amount of parts that are replaced is derecognised. The costs of the day-to-day servicing of property and equipment are recognised in profit or loss as incurred.

Depreciation on property and equipment is charged to profit or loss (unless it is included in the carrying amount of another asset) on the straight-line method to write off the depreciable amount of the assets over their estimated useful lives. Depreciation of an asset does not cease when the asset becomes idle or is retired from active use unless the asset is fully depreciated.

The principal annual rates used for this purpose are:-

Building	2%
Computers	40%
Energy audit equipment	20%
Furniture and fittings	20%
Motor vehicles	20%
Office equipment	20%
Renovation	10%
Solar system	10%

The depreciation method, useful lives and residual values are reviewed, and adjusted if appropriate, at the end of each reporting period to ensure that the amounts, method and periods of depreciation are consistent with previous estimates and the expected pattern of consumption of the future economic benefits embodied in the items of the property and equipment. Any changes are accounted for as a change in estimate.

When significant parts of an item of property and equipment have different useful lives, they are accounted for as separate items (major components) of property and equipment.

An item of property and equipment is derecognised upon disposal or when no future economic benefits are expected from its use. Any gain or loss arising from derecognition of the asset, being the difference between the net disposal proceeds and the carrying amount, is recognised in profit or loss.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.7 LEASES

The Group assesses whether a contract is or contains a lease, at the inception of the contract. The Group recognises a right-of-use asset and corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for low-value assets and short-term leases with 12 months or less. For these leases, the Group recognises the lease payments as an operating expense on a straight-line method over the term of the lease unless another systematic basis is more representative of the time pattern in which economic benefits from the leased assets are consumed.

The Group recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use assets and the associated lease liabilities are presented as a separate line item in the statements of financial position.

The right-of-use asset is initially measured at cost. Cost includes the initial amount of the corresponding lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred, less any incentives received.

The right-of-use asset is subsequently measured at cost less accumulated depreciation and any impairment losses, and adjustment for any remeasurement of the lease liability. The depreciation starts from the commencement date of the lease. If the lease transfers ownership of the underlying asset to the Group or the cost of the right-of-use asset reflects that the Group expects to exercise a purchase option, the related right-of-use asset is depreciated over the useful life of the underlying asset. Otherwise, the Group depreciates the right-of-use asset to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. The estimated useful lives of the right-of-use assets are determined on the same basis as those property and equipment.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate.

The lease liability is subsequently measured at amortised cost using the effective interest method. It is remeasured when there is a change in the future lease payments (other than lease modification that is not accounted for as a separate lease) with the corresponding adjustment is made to the carrying amount of the right-of-use asset or is recognised in profit or loss if the carrying amount has been reduced to zero.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.8 IMPAIRMENT

(a) Impairment of Financial Assets

The Group recognises a loss allowance for expected credit losses on investments in debt instruments that are measured at amortised cost and trade receivables.

The expected credit loss is estimated as the difference between all contractual cash flows that are due to the Group in accordance with the contract and all the cash flows that the Group expects to receive, discounted at the original effective interest rate.

The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument. The Group always recognises lifetime expected credit losses for trade receivables using the simplified approach. The expected credit losses on these financial assets are estimated using a provision matrix based on the Group's historical credit loss experience and are adjusted for forward-looking information (including time value of money where appropriate).

For all other financial instruments, the Group recognises lifetime expected credit losses when there has been a significant increase in credit risk since initial recognition. However, if the credit risk on the financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to 12-month expected credit losses.

The Group recognises an impairment gain or loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at fair value through other comprehensive income, for which the loss allowance is recognised in other comprehensive income and accumulated in the fair value reserve, and does not reduce the carrying amount of the financial asset in the statement of financial position.

(b) Impairment of Non-financial Assets

The carrying values of assets, other than those to which MFRS 136 does not apply, are reviewed at the end of each reporting period for impairment when an annual impairment assessment is compulsory or there is an indication that the assets might be impaired. Impairment is measured by comparing the carrying values of the assets with their recoverable amounts. When the carrying amount of an asset exceeds its recoverable amount, the asset is written down to its recoverable amount and an impairment loss shall be recognised. The recoverable amount of an asset is the higher of the assets' fair value less costs to sell and its value in use, which is measured by reference to discounted future cash flows using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. Where it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

An impairment loss is recognised in profit or loss.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.8 IMPAIRMENT (CONT'D)

(b) Impairment of Non-financial Assets (Cont'd)

When there is a change in the estimates used to determine the recoverable amount, a subsequent increase in the recoverable amount of an asset is treated as a reversal of the previous impairment loss and is recognised to the extent of the carrying amount of the asset that would have been determined (net of amortisation and depreciation) had no impairment loss been recognised. The reversal is recognised in profit or loss immediately.

4.9 CASH AND CASH EQUIVALENTS

Cash and cash equivalents comprise cash in hand, bank balances, demand deposits, and short-term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value with original maturity periods of three months or less.

4.10 EMPLOYEE BENEFITS

(a) Short-term Benefits

Wages, salaries, paid annual leave and bonuses are measured on an undiscounted basis and are recognised in profit or loss in the period in which the associated services are rendered by employees of the Group.

(b) Defined Contribution Plans

The Group's contributions to defined contribution plans are recognised in profit or loss in the period to which they relate. Once the contributions have been paid, the Group has no further liability in respect of the defined contribution plans.

4.11 INCOME TAXES

(a) Current Tax

Current tax assets and liabilities are the expected amount of income tax recoverable or payable to the taxation authorities.

Current taxes are measured using tax rates and tax laws that have been enacted or substantively enacted at the end of the reporting period and are recognised in profit or loss except to the extent that the tax relates to items recognised outside profit or loss (either in other comprehensive income or directly in equity).

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.11 INCOME TAXES (CONT'D)

(b) Deferred Tax

Deferred tax is recognised using the liability method for all temporary differences other than those that arise from goodwill or from the initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction, affects neither accounting profit nor taxable profit.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period when the asset is realised or the liability is settled, based on the tax rates that have been enacted or substantively enacted at the end of the reporting period.

Deferred tax assets are recognised for all deductible temporary differences, unused tax losses and unused tax credits to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences, unused tax losses and unused tax credits can be utilised. The carrying amounts of deferred tax assets are reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that the related tax benefits will be realised.

Current and deferred tax items are recognised in correlation to the underlying transactions either in profit or loss, other comprehensive income or directly in equity. Deferred tax arising from a business combination is adjusted against goodwill or negative goodwill.

Current tax assets and liabilities or deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when the deferred taxes relate to the same taxable entity (or on different tax entities but they intend to settle current tax assets and liabilities on a net basis) and the same taxation authority.

4.12 FAIR VALUE MEASUREMENTS

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using a valuation technique. The measurement assumes that the transaction takes place either in the principal market or in the absence of a principal market, in the most advantageous market. For non-financial asset, the fair value measurement takes into account a market's participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

4.12 FAIR VALUE MEASUREMENTS (CONT'D)

For financial reporting purposes, the fair value measurements are analysed into level 1 to level 3 as follows:-

Level 1: Inputs are quoted prices (unadjusted) in active markets for identical assets or liability that the entity can access at the measurement date;

Level 2: Inputs are inputs, other than quoted prices included within level 1, that are observable for the asset or liability, either directly or indirectly; and

Level 3: Inputs are unobservable inputs for the asset or liability.

The transfer of fair value between levels is determined as of the date of the event or change in circumstances that caused the transfer.

4.13 REVENUE FROM CONTRACTS WITH CUSTOMERS

Revenue from contracts with customers is measured based on the consideration specified in a contract with a customer in exchange for transferring services to a customer net of sales and service tax, returns, rebates and discounts. The Group recognises revenue when (or as) it transfers control over a service to customer. Depending on the substance of the contract, revenue is recognised when the performance obligation is satisfied, which may be at a point in time or over time.

Rendering of Services

Revenue from providing services is recognised when the services are rendered.

4.14 OTHER OPERATING INCOME

(a) Government grants

Government grants are recognised at their fair value when there is reasonable assurance that they will be received and all conditions attached will be met.

Grants that compensate the Group for expenses incurred are recognised in profit or loss on a systematic basis over the period necessary to match them with the related expenses which they are intended to compensate for. These grants are presented as other income in profit or loss.

Grants that compensate the Group for the cost of an asset are recognised as deferred grant income in the statement of financial position and are amortised to profit or loss on a systematic basis over the expected useful life of the relevant asset.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)**4.14 OTHER OPERATING INCOME (CONT'D)****(b) Interest income**

Interest income is recognised on an accrual basis using the effective interest method.

5. INVESTMENT IN SUBSIDIARIES

	THE COMPANY 2020 RM	2019 RM
Unquoted shares, at cost	2,500,000	2,500,000

The details of the subsidiaries are as follows:-

NAME OF SUBSIDIARIES	PRINCIPAL PLACE OF BUSINESS/ COUNTRY OF INCORPORATION	PERCENTAGE OF ISSUED SHARE CAPITAL HELD BY PARENT		PRINCIPAL ACTIVITIES
		2020 %	2019 %	
<u>Subsidiary of the Company</u>				
Greentech Malaysia Alliances Sdn. Bhd. ("GTMA")	Malaysia	100	100	Engaged in investment holding and business as promoters of green technology development.
<u>Subsidiaries of GTMA</u>				
Greentech Ideaslab Sdn. Bhd.	Malaysia	100	100	Dormant
Greentech Catalyst Sdn. Bhd.	Malaysia	100	100	Dormant

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

6. PROPERTY AND EQUIPMENT

	AT 1.1.2020 RM	ADDITIONS RM	DEPRECIATION CHARGES RM	AT 31.12.2020 RM
The Group/The Company				
2020				
<i>Carrying Amount</i>				
Building	14,426,681	-	(384,753)	14,041,928
Computers	109,113	13,485	(93,480)	29,118
Energy audit equipment	27	-	-	27
Furniture and fittings	11,730	7,377	(5,516)	13,591
Motor vehicles	88,597	-	(27,975)	60,622
Office equipment	34,742	7,920	(19,915)	22,747
Renovation	93,824	187,675	(30,994)	250,505
Solar system	172,130	-	(29,700)	142,430
	14,936,844	216,457	(592,333)	14,560,968

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

6. PROPERTY AND EQUIPMENT (CONT'D)

	AT 1.1.2019 RM	ADDITIONS RM	DISPOSAL RM	DEPRECIATION CHARGES RM	AT 31.12.2019 RM
The Group/The Company					
2019					
<i>Carrying Amount</i>					
Building	14,811,433	–	–	(384,752)	14,426,681
Computers	124,944	62,568	(29)	(78,370)	109,113
Energy audit equipment	27	–	–	–	27
Furniture and fittings	18,162	–	–	(6,432)	11,730
Motor vehicles	225,969	–	–	(137,372)	88,597
Office equipment	24,868	21,300	–	(11,426)	34,742
Renovation	121,234	3,850	–	(31,260)	93,824
Solar system	201,830	–	–	(29,700)	172,130
	15,528,467	87,718	(29)	(679,312)	14,936,844

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

6. PROPERTY AND EQUIPMENT (CONT'D)

	AT COST RM	ACCUMULATED DEPRECIATION RM	CARRYING AMOUNT RM
The Group/The Company			
2020			
Building	19,077,708	(5,035,780)	14,041,928
Computers	1,937,001	(1,907,883)	29,118
Energy audit equipment	157,945	(157,918)	27
Furniture and fittings	1,456,577	(1,442,986)	13,591
Motor vehicles	942,747	(882,125)	60,622
Office equipment	252,892	(230,145)	22,747
Renovation	500,593	(250,088)	250,505
Solar system	3,334,713	(3,192,283)	142,430
	27,660,176	(13,099,208)	14,560,968
2019			
Building	19,077,708	(4,651,027)	14,426,681
Computers	1,923,516	(1,814,403)	109,113
Energy audit equipment	157,945	(157,918)	27
Furniture and fittings	1,449,200	(1,437,470)	11,730
Motor vehicles	942,747	(854,150)	88,597
Office equipment	244,972	(210,230)	34,742
Renovation	312,918	(219,094)	93,824
Solar system	3,334,713	(3,162,583)	172,130
	27,443,719	(12,506,875)	14,936,844

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

7. RIGHT-OF-USE ASSETS

	AT 1.1.2020 RM	DEPRECIATION CHARGES RM	AT 31.12.2020 RM
The Group/The Company			
2020			
Leasehold land	2,904,068	(33,768)	2,870,300
Office equipment	54,184	(18,647)	35,537
	2,958,252	(52,415)	2,905,837
2019			
Leasehold land	2,937,837	(33,769)	2,904,068
Office equipment	72,831	(18,647)	54,184
	3,010,668	(52,416)	2,958,252

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

7. RIGHT-OF-USE ASSETS (CONT'D)

	THE GROUP/ 2020 RM	THE COMPANY 2019 RM
Analysed by:-		
Cost	3,415,887	3,415,887
Accumulated depreciation	(510,050)	(457,635)
	2,905,837	2,958,252

The Group leases a piece of leasehold land and certain office equipment of which the leasing activities are summarised below:-

- (i) Leasehold land The Group has entered into a non-cancellable operating lease agreement for the use of land. The leases are for a period of 99 (2019 - 99) years with no renewal or purchase option included in the agreements. The leases do not allow the Group to assign, transfer or sublease or create any charge, lien or trust in respect of or dispose of the whole or any part of the land. A tenancy is, however, allowed with the consent of the lessor.
- (ii) Office equipment The Group has leased a number of photocopier machines for 3 - 5 years, with an option to renew the lease after that date.

8. TRADE RECEIVABLES

The Group's normal trade credit term is 30 days (2019 - 30 days) from the date of invoice. Other credit terms are assessed and approved on a case-by-case basis.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

9. OTHER RECEIVABLES, DEPOSITS AND PREPAYMENTS

	THE GROUP/THE COMPANY	
	2020 RM	2019 RM
Other receivables	457,171	69,916
Deposits	562,651	555,499
Prepayments	79,589	79,589
GST receivables	140,282	140,282
	1,239,693	845,286

10. AMOUNT OWING BY SUBSIDIARIES

The amount owing by subsidiaries represents non-trade balances, unsecured, interest free and payments made on behalf. The amount owing is receivable on demand and is to be settled in cash.

11. FIXED DEPOSITS WITH A LICENSED BANK

(a) The fixed deposits with licensed banks of the Group and the Company at the end of the reporting period bore effective interest rates ranging from 1.25% to 2.75% (2019 - 2.70% to 3.50%) per annum. The fixed deposits have maturity periods ranging from 1 to 12 (2019 - 1 to 12) months for the Group and the Company respectively.

(b) Included in the fixed deposits with licensed banks of the Group at the end of the reporting period was an amount of RM987,450 (2019 - RM1,025,483) which has been pledged to a licensed bank as security for banking facilities granted to the Company.

12. RETAINED PROFITS

The Company is prohibited to distribute any dividend to its members under Section 45(2)(b) of the Companies Act 2016 in Malaysia.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

13. GOVERNMENT GRANTS

	THE GROUP/THE COMPANY	
	2020 RM	2019 RM
At 1 January	27,681,924	15,975,145
Additions during the financial year	45,902,724	22,441,148
Utilisation during the financial year	(44,394,422)	(10,734,369)
At 31 December	29,190,226	27,681,924

14. DEFERRED INCOME

The deferred income represents advances received from Tesla car buyers.

15. BUILDING FUND

	THE GROUP/THE COMPANY	
	2020 RM	2019 RM
Cost	25,037,500	25,037,500
Accumulated amortisation	(9,570,194)	(8,869,192)
At 31 December	15,467,306	16,168,308
Accumulated amortisation:-		
At 1 January	8,869,192	8,167,937
Amortisation for the financial year	701,002	701,255
At 31 December	9,570,194	8,869,192

Building fund is a grant received from the Ministry of Energy, Green Technology and Water, Malaysia to build Pusat Tenaga Malaysia Zero Energy Office ("PTM ZEO") Building.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

16. LEASE LIABILITIES

	THE GROUP/THE COMPANY	
	2020	2019
	RM	RM
At 1 January	55,120	72,831
Interest expense recognised in profit or loss	1,578	2,209
Repayment of principal	(18,342)	(17,711)
Repayment of interest expense	(1,578)	(2,209)
At 31 December	36,778	55,120
Analysed by:-		
Current liability	8,954	18,342
Non-current liability	27,824	36,778
	36,778	55,120

17. TRADE PAYABLES

The normal trade credit terms granted to the Group range from 14 to 30 (2019 - 14 to 30) days.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

18. OTHER PAYABLES AND ACCRUALS

	THE GROUP		THE COMPANY	
	2020	2019	2020	2019
	RM	RM	RM	RM
Other payables	745,028	595,098	723,113	573,184
Accruals	25,334,483	4,153,034	25,318,082	4,136,023
	26,079,511	4,748,132	26,041,195	4,709,207
Sales and service tax	335,586	215,488	335,586	215,488
	26,415,097	4,963,620	26,376,781	4,924,695

19. REVENUE

	THE GROUP/THE COMPANY	
	2020	2019
	RM	RM
Recognised over time Services rendered	816,223	879,285
Recognised at a point in time Services rendered	5,083,029	9,677,009
	5,899,252	10,556,294

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

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20. COST OF SALES

	THE GROUP/THE COMPANY	
	2020	2019
	RM	RM
Services rendered	2,446,741	5,541,875

21. OTHER INCOME

	THE GROUP/THE COMPANY	
	2020	2019
	RM	RM
Project with grants	45,178,571	10,676,187
Interest income	1,395,969	1,985,175
Amortisation of building fund	701,002	701,255
Gain on disposal of equipment	–	2,967
Others	140,965	99,772
	47,416,507	13,465,356

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

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22. ADMINISTRATIVE EXPENSES

	THE GROUP		THE COMPANY	
	2020	2019	2020	2019
	RM	RM	RM	RM
Project with grants	44,404,622	10,735,487	44,404,622	10,735,487
Staff costs	7,503,288	7,785,444	7,503,288	7,785,444
Others	1,573,674	2,016,125	1,572,919	1,991,232
Auditors' remuneration	94,090	90,000	77,700	73,000
	53,575,674	20,627,056	53,558,529	20,585,163

23. INCOME TAX EXPENSE

	THE GROUP		THE COMPANY	
	2020	2019	2020	2019
	RM	RM	RM	RM
Current tax expense:				
- for the financial year	286,000	512,000	286,000	512,000
- underprovision in the previous financial year	66,934	182,414	66,934	182,414
	352,934	694,414	352,934	694,414

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

23. INCOME TAX EXPENSE (CONT'D)

A reconciliation of income tax expense applicable to the profit before taxation at the statutory tax rate to income tax expense at the effective tax rate of the Group and of the Company is as follows:-

	THE GROUP		THE COMPANY	
	2020 RM	2019 RM	2020 RM	2019 RM
Profit before taxation	447,018	1,618,782	464,163	1,660,675
Tax at the statutory tax rate of 24%	107,285	388,508	111,399	398,562
Tax effects of:-				
Non-deductible expenses	295,963	298,033	291,849	287,979
Non-taxable income	(168,240)	(168,301)	(168,240)	(168,301)
Deferred tax assets not recognised during the financial year	50,992	-	50,992	-
Utilisation of deferred tax assets previously not recognised	-	(6,240)	-	(6,240)
Underprovision in the previous financial year	66,934	182,414	66,934	182,414
Income tax expense for the financial year	352,934	694,414	352,934	694,414

Domestic income tax is calculated at the Malaysian statutory tax rate of 24% (2019 - 24%) of the estimated assessable profit for the financial year.

No deferred tax assets are recognised for the following items:-

	THE GROUP/THE COMPANY	
	2020 RM	2019 RM
Accelerated capital allowances	484,000	328,000
Other provisions	1,043,000	986,000
	1,527,000	1,314,000

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

24. CASH FLOW INFORMATION

(a) The reconciliation of liability arising from financing activities (besides movement of government grants) is as follows:-

	2020 RM	2019 RM
Lease liabilities		
At 1 January	55,120	72,831
Change in Financing Cash Flows		
Repayment of principal	(18,342)	(17,711)
Repayment of interests	(1,578)	(2,209)
	(19,920)	(19,920)
Non-cash Change		
Interest expense	1,578	2,209
At 31 December	36,778	55,120

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

24. CASH FLOW INFORMATION (CONT'D)

(b) The cash and cash equivalents comprise the following:-

	THE GROUP		THE COMPANY	
	2020	2019	2020	2019
	RM	RM	RM	RM
Fixed deposits with a licensed bank	68,206,553	49,676,707	68,206,553	49,676,707
Cash and bank balances	5,181,861	5,664,072	2,659,220	3,141,431
	73,388,414	55,340,779	70,865,773	52,818,138
Less:-				
Fixed deposits with maturity of more than 3 months	(449,056)	(20,460,602)	(449,056)	(20,460,602)
Fixed deposits pledged to a licensed bank	(987,450)	(1,025,483)	(987,450)	(1,025,483)
	71,951,908	33,854,694	69,429,267	31,332,053

25. RELATED PARTY DISCLOSURES**Identities of Related Parties**

Parties are considered to be related to the Group if the Group or the Company has the ability, directly or indirectly, to control or jointly control the party or exercise significant influence over the party in making financial and operating decisions, or vice versa, or where the Group or the Company and the party are subject to common control.

In addition to the information detailed elsewhere in the financial statements, the Group has related party relationships with its directors, key management personnel and entities within the same group of companies.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS

The Group's activities are exposed to a variety of market risk (including foreign currency risk, interest rate risk and equity price risk), credit risk and liquidity risk. The Group's overall financial risk management policy focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the Group's financial performance.

26.1 FINANCIAL RISK MANAGEMENT POLICIES

The Group's policies in respect of the major areas of treasury activity are as follows:-

(a) Market Risk

(i) Foreign Currency Risk

The Group does not have any transactions or balances denominated in foreign currencies and hence, is not exposed to foreign currency risk.

(ii) Interest Rate Risk

The Group does not have any interest-bearing borrowings and hence, is not exposed to interest rate risk.

(iii) Equity Price Risk

The Group does not have any quoted investments and hence, is not exposed to equity price risk.

(b) Credit Risk

The Group's exposure to credit risk, or the risk of counterparties defaulting, arises mainly from trade and other receivables. The Group manages its exposure to credit risk by the application of credit approvals, credit limits and monitoring procedures on an ongoing basis. For other financial assets (including cash and bank balances), the Group minimises credit risk by dealing exclusively with high credit rating counterparties.

(i) Credit Risk Concentration Profile

The Group's major concentration of credit risk relates to the amount owing by a customer which constituted approximately 63% of its trade receivables as at the end of the reporting period.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS (CONT'D)**26.1 FINANCIAL RISK MANAGEMENT POLICIES (CONT'D)****(b) Credit Risk (Cont'd)**

(ii) Exposure to Credit Risk

At the end of the reporting period, the maximum exposure to credit risk is represented by the carrying amount of each class of financial assets recognised in the statement of financial position of the Group and of the Company after deducting any allowance for impairment losses (where applicable).

(iii) Assessment of Impairment Losses

At each reporting date, the Group assesses whether any of financial assets at amortised cost are credit impaired.

The gross carrying amounts of those financial assets are written off when there is no reasonable expectation of recovery (i.e. the debtor does not have assets or sources of income to generate sufficient cash flows to repay the debt) despite they are still subject to enforcement activities.

Trade Receivables

The Group applies the simplified approach to measure expected credit losses using a lifetime expected loss allowance for all trade receivables.

To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due.

For certain large customers or customers with a high risk of default, the Group assesses the risk of loss of each customer individually based on their financial information, past trends of payments an external credit rating, where applicable.

Also, the Group considers any trade receivables having financial difficulty or in default with significant balances outstanding for more than a year are deemed credit impaired and assesses for their risk of loss individually.

The expected loss rates are based on the payment profiles of sales over a period of a year from the measurement date and the corresponding historical credit losses experienced within this period. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle their debts.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS (CONT'D)**26.1 FINANCIAL RISK MANAGEMENT POLICIES (CONT'D)****(b) Credit Risk (Cont'd)**

(iii) Assessment of Impairment Losses (Cont'd)

Trade Receivables (Cont'd)

The information about the exposure to credit risk and the loss allowances calculated under MFRS 9 for trade receivables are summarised below:-

	GROSS AMOUNT RM	INDIVIDUAL IMPAIRMENT RM	COLLECTIVE IMPAIRMENT RM	CARRYING AMOUNT RM
The Group/The Company				
2020				
Current (not past due)	3,615,474	–	–	3,615,474
1 to 30 days past due	2,234,145	–	–	2,234,145
31 to 60 days past due	407,771	–	–	407,771
61 to 90 days past due	647,109	–	–	647,109
91 to 365 days past due	6,531	–	–	6,531
Credit impaired	350,304	–	–	350,304
	7,261,334	–	–	7,261,334

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS (CONT'D)**26.1 FINANCIAL RISK MANAGEMENT POLICIES (CONT'D)****(b) Credit Risk (Cont'd)**

(iii) Assessment of Impairment Losses (Cont'd)

Trade Receivables (Cont'd)

The information about the exposure to credit risk and the loss allowances calculated under MFRS 9 for trade receivables are summarised below:- (Cont'd)

	GROSS AMOUNT RM	INDIVIDUAL IMPAIRMENT RM	COLLECTIVE IMPAIRMENT RM	CARRYING AMOUNT RM
The Group/The Company				
2019				
Current (not past due)	782,637	-	-	782,637
1 to 30 days past due	676,515	-	-	676,515
31 to 60 days past due	271,149	-	-	271,149
61 to 90 days past due	281,585	-	-	281,585
91 to 365 days past due	1,712,043	-	-	1,712,043
Credit impaired	476,100	-	-	476,100
	4,200,029	-	-	4,200,029

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS (CONT'D)**26.1 FINANCIAL RISK MANAGEMENT POLICIES (CONT'D)****(b) Credit Risk (Cont'd)**

(iii) Assessment of Impairment Losses (Cont'd)

Other Receivables

Other receivables are also subject to the impairment requirements of MFRS 9, the identified impairment loss was immaterial and hence, it is not provided for.

Fixed Deposits with Licensed Banks, Cash and Bank Balances

The Group considers these banks and financial institutions have low credit risks. In addition, some of the bank balances are insured by Government agencies. Therefore, the Group is of the view that the loss allowance is immaterial and hence, it is not provided for.

Amount Owing By Subsidiaries

The Company applies the 3-stage general approach to measuring expected credit losses for all inter-companies balances. Generally, the Company considers loans and advances to subsidiaries have low credit risk. No expected credit loss is recognised on amount owing by subsidiaries as it is negligible.

(c) Liquidity Risk

Liquidity risk arises mainly from general funding and business activities. The Group practises prudent risk management by maintaining sufficient cash balances with funds granted by the government.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS (CONT'D)**26.1 FINANCIAL RISK MANAGEMENT POLICIES (CONT'D)****(c) Liquidity Risk (Cont'd)***Maturity Analysis*

The following table sets out the maturity profile of the financial liabilities at the end of the reporting period based on contractual undiscounted cash flows (including interest payments computed using contractual rates or, if floating, based on the rates at the end of the reporting period):-

	WEIGHTED AVERAGE EFFECTIVE INTEREST RATE %	CARRYING AMOUNT RM	CONTRACTUAL UNDISCOUNTED CASH FLOWS RM	WITHIN 1 YEAR RM	1 - 5 YEARS RM
The Group					
2020					
<u>Non-derivative Financial Liabilities</u>					
Trade payables	-	5,419,120	5,419,120	5,419,120	-
Other payables and accruals	-	26,079,511	26,079,511	26,079,511	-
		31,498,631	31,498,631	31,498,631	-
<u>Other financial liability</u>					
Lease liabilities	3.50	36,778	38,035	19,920	18,115
		31,535,409	31,536,666	31,518,551	18,115

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS (CONT'D)**26.1 FINANCIAL RISK MANAGEMENT POLICIES (CONT'D)****(c) Liquidity Risk (Cont'd)***Maturity Analysis (Cont'd)*

The following table sets out the maturity profile of the financial liabilities at the end of the reporting period based on contractual undiscounted cash flows (including interest payments computed using contractual rates or, if floating, based on the rates at the end of the reporting period):- (Cont'd)

	WEIGHTED AVERAGE EFFECTIVE INTEREST RATE %	CARRYING AMOUNT RM	CONTRACTUAL UNDISCOUNTED CASH FLOWS RM	WITHIN 1 YEAR RM	1 - 5 YEARS RM
The Group					
2019					
<u>Non-derivative Financial Liabilities</u>					
Trade payables	-	8,355,703	8,355,703	8,355,703	-
Other payables and accruals	-	4,748,132	4,748,132	4,748,132	-
		13,103,835	13,103,835	13,103,835	-
<u>Other financial liability</u>					
Lease liabilities	3.50	55,120	57,955	19,920	38,035
		13,158,955	13,161,790	13,123,755	38,035

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS (CONT'D)**26.1 FINANCIAL RISK MANAGEMENT POLICIES (CONT'D)****(c) Liquidity Risk (Cont'd)***Maturity Analysis (Cont'd)*

The maturity profile of the financial liabilities at the end of the reporting period based on contractual undiscounted cash flows (including interest payments computed using contractual rates or, if floating, based on the rates at the end of the reporting period):- (Cont'd)

	WEIGHTED AVERAGE EFFECTIVE INTEREST RATE %	CARRYING AMOUNT RM	CONTRACTUAL UNDISCOUNTED CASH FLOWS RM	WITHIN 1 YEAR RM	1 - 5 YEARS RM
The Company					
2020					
<u>Non-derivative Financial Liabilities</u>					
Trade payables	–	5,419,120	5,419,120	5,419,120	–
Other payables and accruals	–	26,041,195	26,041,195	26,041,195	–
		31,460,315	31,460,315	31,460,315	–
<u>Other financial liability</u>					
Lease liabilities	3.50	36,778	38,035	19,920	18,115
		31,497,093	31,498,350	31,480,235	18,115

NOTES TO THE FINANCIAL STATEMENTS

FOR THE FINANCIAL YEAR 31 DECEMBER 2020

(CONT'D)

26. FINANCIAL INSTRUMENTS (CONT'D)**26.1 FINANCIAL RISK MANAGEMENT POLICIES (CONT'D)****(c) Liquidity Risk (Cont'd)***Maturity Analysis (Cont'd)*

The maturity profile of the financial liabilities at the end of the reporting period based on contractual undiscounted cash flows (including interest payments computed using contractual rates or, if floating, based on the rates at the end of the reporting period):- (Cont'd)

	WEIGHTED AVERAGE EFFECTIVE INTEREST RATE %	CARRYING AMOUNT RM	CONTRACTUAL UNDISCOUNTED CASH FLOWS RM	WITHIN 1 YEAR RM	1 - 5 YEARS RM
The Company					
2019					
<u>Non-derivative Financial Liabilities</u>					
Trade payables	–	8,355,703	8,355,703	8,355,703	–
Other payables and accruals	–	4,709,207	4,709,207	4,709,207	–
		13,064,910	13,064,910	13,064,910	–
<u>Other financial liability</u>					
Lease liabilities	3.50	55,120	57,955	19,920	38,035
		13,120,030	13,122,865	13,084,830	38,035

NOTES TO THE FINANCIAL STATEMENTSFOR THE FINANCIAL YEAR 31 DECEMBER 2020
(CONT'D)**26. FINANCIAL INSTRUMENTS (CONT'D)****26.2 CAPITAL RISK MANAGEMENT**

The Company has no bank borrowings. No debt-to-equity ratio is presented.

26.3 CLASSIFICATION OF FINANCIAL INSTRUMENTS

	THE GROUP		THE COMPANY	
	2020 RM	2019 RM	2020 RM	2019 RM
Financial Asset				
<u>Amortised Cost</u>				
Trade receivables	7,261,334	4,200,029	7,261,334	4,200,029
Other receivables	457,171	69,916	457,171	69,916
Amount owing by subsidiaries	–	–	482,813	465,059
Fixed deposits with a licensed bank	68,206,553	49,676,707	68,206,553	49,676,707
Cash and bank balances	5,181,861	5,664,072	2,659,220	3,141,431
	81,106,919	59,610,724	79,067,091	57,553,142
Financial Liability				
<u>Other Financial Liabilities</u>				
Trade payables	5,419,120	8,355,703	5,419,120	8,355,703
Other payables and accruals	26,079,511	4,748,132	26,041,195	4,709,207
	31,498,631	13,103,835	31,460,315	13,064,910

NOTES TO THE FINANCIAL STATEMENTSFOR THE FINANCIAL YEAR 31 DECEMBER 2020
(CONT'D)**26. FINANCIAL INSTRUMENTS (CONT'D)****26.4 GAINS ARISING FROM FINANCIAL INSTRUMENTS**

	THE GROUP/THE COMPANY	
	2020 RM	2019 RM
Financial Asset		
<u>Amortised Cost</u>		
Net gain recognised in profit or loss	1,395,969	1,985,175

26.5 FAIR VALUE INFORMATION

At the end of the reporting period, there were no financial instruments carried at fair values in the statements of financial position.

The financial value of the financial assets and financial liabilities of the Group and of the Company that maturing within the next 12 months approximated their carrying amounts due to the relatively short-term maturity of the financial instruments or repayable on demand terms.

27. SIGNIFICANT EVENT DURING THE FINANCIAL YEAR

On 11 March 2020, the World Health Organisation declared the COVID-19 outbreak as global pandemic. Following the declaration, the Government of Malaysia has on 18 March 2020 imposed the Movement Control Order ("MCO") and subsequently entered into various phases of the MCO to curb the spread of the COVID-19 pandemic in Malaysia.

The management has assessed the impact on the Group and of the opinion that there were no material financial impacts arising from the pandemic. Nevertheless, the Group has taken and will continue to take necessary steps to safeguard and preserve its financial condition, emphasising on liquidity management to meet its continuing financial commitments and liquidity needs.

Given the dynamic nature of the COVID-19 pandemic, it is not practicable to provide a reasonable estimate of its impacts on the Group's financial position, operating results and cash flows at the date on which these financial statements are authorised for issue.

NOTICE OF 23RD ANNUAL GENERAL MEETING

NOTICE IS HEREBY GIVEN THAT the Twenty-Third Annual General Meeting of **MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CENTRE** (“the Company”) is held virtually via Zoom Meeting on Thursday, **24th June 2021** at **11.00 a.m.** for the following purposes:

AGENDA

As Ordinary Business

- To Lay and Receive the Audited Financial Statements for the financial year ended 31 December 2020 together with the Reports of the Directors and Auditor therein.
- To re-elect the Director who retires pursuant to Article 20 of the Company's Articles of Association and being eligible, offer himself for re-election:
 - YBhg. Dato' Leong Kin Mun
- To re-appoint Messrs. Crowe Malaysia PLT (AF: 1018) (previously known as Messrs Crowe Horwath) as the Auditors of the Company for the financial year 2021 and to authorise the Directors to fix their remuneration.

(Please refer to
Explanatory Note 2)

Ordinary Resolution No.1

Ordinary Resolution No.2

NOTE

1. Proxy:

- A member of the Company entitled to attend and vote at the meeting is entitled to appoint a proxy to attend and vote in his stead. All proxies must be members of the Company.
- In the case of a corporate member, the instrument appointing a proxy shall be under its Common Seal or under the hand of an officer of the corporation duly authorised on that behalf.
- The instrument appointing a proxy must be deposited at the Registered Office of the Company at Suite C-5-4, Wisma Goshen, Plaza Pantai, Jalan Pantai Baharu, 59200 Kuala Lumpur (Tel :03- 2283 4007/Fax : 03- 2287 7006) not less than 48 hours before the meeting set for holding the meeting or any adjournment thereof.

2. Explanatory Notes to Agenda No. 1

This agenda item is meant for discussion only, as the provision of Section 340(a) of the Companies Act, 2016 does not require a formal approval of the shareholders for the Audited Financial Statements. Hence, this Agenda item is not put forward for voting.

BY ORDER OF THE BOARD

NOR AZRINA BINTI ZAKARIA
Company Secretary LS 0009161

Kuala Lumpur

Date: 3rd June 2021

MGTC MEMBERSHIP

INDIVIDUAL MEMBERS

- Prof. Ir. Dr. K.S. Kannan
- Ir. Hanafi Abdul Nasir
- Ir. Ismail Bin Hj Ishak
- Leong Yeng Kit
- Dato' Sri Ung Eng Huat
- Dato' Cheah Kah Lip
- Yong Sien Wae
- YM Tengku Loreta binti Tengku Ramli
- Syed Ahmad bin Syed Mustafa
- Norhasliza binti Mohd Mokhtar
- Wan Faizal bin Mohd Anwar
- Dato' Ir. Dr. Dennis Ganendra
- Elina Bt. Jani
- Dato' Shahrol Azral bin Ibrahim Halmi
- Tan Kang Chu
- Ts. Sofiuddin Bin Mohamad Isa
- Ir. Fatheeyah Binti Zainuddin
- Noor Azmin Azali Bin Ramli
- Saiful Adib Bin Abdul Munaff
- Huzaimi Nor Bin Omar
- Tengku Sharifah Hanif Binti Tengku Hamzah
- Siti Hursiah Binti Ibrahim,
- Kamaradzaman Bin Mohd Bakri
- Ts. Ir. Ramlan Harun
- Khairuzzamil Bin Kamarulzaman

CORPORATE MEMBERS

- | | | | | | |
|---|--------------------------------|----|-------------------------------------|----|-----------------------------------|
| 1 | YTL Power Generation Sdn. Bhd. | 7 | Lybase Sdn. Bhd. | 12 | Nova Spectra Energy Sdn. Bhd. |
| 2 | SFG Technology (M) Sdn. Bhd. | 8 | Esona Technologies Sdn. Bhd. | 13 | Bio Eneco Sdn. Bhd. |
| 3 | Infrakomas Sdn. Bhd. | 9 | ZOG Engineering Sdn. Bhd. | 14 | Engie Services Malaysia Sdn. Bhd. |
| 4 | VERITAS Architects Sdn. Bhd. | 10 | CMC Group Sdn. Bhd. | 15 | I Controls Solution (M) Sdn. Bhd. |
| 5 | Airestec Sdn. Bhd. | 11 | Feilo Sylvania (Malaysia) Sdn. Bhd. | | |
| 6 | Sapura Holdings Sdn. Bhd. | | | | |

HONORARY MEMBERS

- | | | | | | |
|----|--|----|--|----|--|
| 1 | Y. Bhg. Dato'Hamzah Bakar | 14 | Dr. Mohd Zamzam Jaafar | 29 | Azhar Noraini |
| 2 | Y. Bhg. Tan Sri Nuraizah Abdul Hamid | 15 | Y. Bhg. Dato' Ir. Lew Chin Hoi | 30 | Dr. Anuar Abdul Rahman |
| 3 | YM Raja Datuk Zaharaton Raja Zainal Abidin | 16 | Tan Boon Lee | 31 | Dr. Leong Yow Peng |
| 4 | YBhg Professor Tan Sri Zakri Abdul Hamid | 17 | Amir Abdul Rahman | 32 | Dr. Theng Lee Chong |
| 5 | Prof. Emeritus Dato' Dr. Kamel Ariffin Mohd Atan | 18 | Y. Bhg. Dato' Teo Yen Hua | 33 | Dato' Dr. Nadzri Yahya |
| 6 | Y. Bhg. Dato' Dr. Mohd Ariff Araff | 19 | Leong Yee Heim | 34 | Tan Sri Peter |
| 7 | Tuan Haji Mohamed Zohari Mohamed Shahrarun | 20 | Y.Bhg. Datuk Che Azemi bin Haron | 35 | Tn. Hj. Mohamad Razif Bin Hj. Abd. Mubin |
| 8 | Tan Keok Yin | 21 | Y. Bhg. Dato' Mohd Izzaddin Idris | 36 | Hazim bin Jamaluddin |
| 9 | Y. Bhg. Datin Husniarti Tamin | 22 | Dr. Mohd Farid Mohd Amin | 37 | Datuk Poh Pai Kong |
| 10 | Prof. Ir. Dr. Zainal Abidin bin Ahmad | 23 | Y. Bhg. Prof. Ir. Dr. Hassan Bin Ibrahim | 38 | Baskaran A/L Madhavan Nair |
| 11 | Y. Bhg. Dato' Dr. Halim Shafie | 24 | Y. Bhg. Dato' Dr. Halim Man | 39 | Prof. Datin Paduka Dr. Khatijah Binti Mohamad Yusoff |
| 12 | Y. Bhg. Dato' Syed Hamzah Syed Othman | 25 | Y. Bhg. Dato' Dr. Rosli B. Mohamed | 40 | Datuk Harjeet Singh Hardev Singh |
| 13 | Prof. Dr. Muhamad Awang | 26 | Y. Bhg. Datuk Loo Took Gee | 41 | Datuk (Dr.) Hafsa Binti Hashim |
| | | 27 | Dato Paduka Profesor (Dr.) Ir Hj. Keizrul Bin Abdullah | 42 | Datuk Badriyah Binti Hj. Abd Malek |
| | | 28 | Datuk Hjh.Nor'aini Binti Abdul Wahab | | |

APPENDICES



LOW CARBON CITIES 2030 CHALLENGE

DIAMOND RECOGNITION SUMMARY – LOW CARBON ZONE													
No.	State Name	Local Authority Name	Zone/Partner Name	Elements	Baseline	Audit	Reduction In Each Element				Sequestration (tCO ₂)	Reduction	
							Energy %	Water %	Waste %	Mobility %		(tCO ₂ e)	%
1.	SELANGOR	Majlis Bandaraya Shah Alam	Pusat Bandar Seksyen 14, Shah Alam	4	60,474.94	49,162.78	16.27	7.21	23.47	53.98	6,707.02	11,312.15	18.71
2.	SELANGOR	Majlis Perbandaran Sepang	Cyber 1	4	7,970.47*	5,628.69	35.82	-8.41	0.58	37.1	3,145.66	2,341.78	29.38
3.	JOHOR	Majlis Perbandaran Batu Pahat	Bandar Penggaram	4	22,329.31*	17,682.09	20.62	-0.40	22.14	3.10	145.04	4,647.22	20.81
4.	JOHOR	Majlis Bandaraya Pasir Gudang	LC Zon 1 Pasir Gudang	3	193,988.01*	187,298.23	3.97	-3.95	20.10		1,935.83	6,689.77	3.45
5.	KEDAH	Majlis Perbandaran Langkawi	Bandar Kuah	3	60,951.09*	59,985.38	1.3	17.97	-5.08		999.21	965.72	1.58
6.	PERAK	Majlis Bandaraya Ipoh	Kawasan Perancangan Pusat	3	15,074.39	13,764.00	19.41	33.26	2.85		572.82	1,310.39	8.69
7.	SELANGOR	Majlis Bandaraya Shah Alam	Seksyen 1, UiTM Shah Alam	3	73,987.06	45,303.59	39.82	48.48	-11.61		252.98	28,748.01	38.86
8.	SELANGOR	Majlis Bandaraya Subang Jaya	Bandar Sunway	3	131,384.24	129,817.39	1.58	-17.65	-4.66		136.71	1,566.85	1.19
9.	SELANGOR	Majlis Daerah Hulu Selangor	Bandar Kuala Kubu Bharu	3	7,648.92*	6,844.44	10.42	1.61	15.75		28.15	804.48	10.52
10.	SELANGOR	Majlis Perbandaran Kuala Langat	Zon A Kawasan Perindustrian Teluk Panglima Garang	3	215,351.81*	192,528.75	10.59	13.85	9.42		494.71	22,823.05	10.60
11.	MELAKA	Majlis Perbandaran Hang Tuah Jaya	MITC Area	2	17,836.80*	16,220.25	9.39	-34.40			1,418.34	1,616.54	9.06
12.	MELAKA	Majlis Perbandaran Alor Gajah	Bandar Alor Gajah Zon 1	2	2,889.53	2,646.53	7.82	42.23			1,820.94	243.00	8.41
13.	SELANGOR	Majlis Bandaraya Shah Alam	Seksyen 5, Shah Alam	2	11,408.36	10,335.04	9.55	-28				1,110.40	9.70
14.	SELANGOR	Majlis Perbandaran Kajang	Pusat Bandar, Bandar Baru Bangi	1	1,876.88*	1,034.49			44.88		76.47	842.38	44.88

APPENDICES

DIAMOND RECOGNITION SUMMARY – LOW CARBON PARTNER													
No.	State Name	Local Authority Name	Zone/Partner Name	Elements	Baseline	Audit	Reduction In Each Element				Sequestration (tCO ₂)	Reduction	
							Energy %	Water %	Waste %	Mobility %		(tCO ₂ e)	%
1.	JOHOR	Majlis Daerah Mersing/Shaz Resort Sdn Bhd	Shaz Resort Pulau Tinggi	4	149.59*	70.15	64.50	-6.30	30.08	37.29	558.08	79.44	53.11
2.	SELANGOR	Majlis Bandaraya Shah Alam	Wisma MBSA	3	5,756.17	5,301.53	14.34	0	7.35		438.00	454.64	7.90
3.	SELANGOR	Majlis Perbandaran Klang	Bangunan Ibu Pejabat (3D)	3	1022.31	909.54	11.09	-26	34.08	-	10.00	112.77	19.17
4.	SELANGOR	Majlis Perbandaran Selayang	Kompleks Ibu Pejabat MP Selayang	3	1,978.81*	1,786.11	10.36	12.23	4.26	-	1.60	192.70	9.74
5.	SELANGOR	Majlis Daerah Hulu Selangor	Hospital Kuala Kubu Bharu	3	1,217.61	1,045.74	15.08	-6.43	-6.92			171.87	14.12
6.	SELANGOR	Majlis Daerah Hulu Selangor	Ibu Pejabat MDHS	3	266.30	252.59	4.40	-39.42	27.96			13.71	5.15
7.	PAHANG	Majlis Perbandaran Bentong	Ibu Pejabat MP Bentong	2	388.86	312.42	20.75	-111.15				76.43	19.66
8.	SELANGOR	Majlis Bandaraya Shah Alam	Bangunan Sultan Idris Shah	2	3,124.42	3,084.97	1.06	-11.75				39.45	1.26
9.	SELANGOR	Majlis Bandaraya Shah Alam	UOW Malaysia KDU College	2	4,333.66	3,843.19	11.32	11.00				490.47	11.32
10.	SELANGOR	Majlis Bandaraya Shah Alam	Pejabat SUK Selangor	1	8,021.65	6,742.08	17.18					1,398.58	17.18
11.	SELANGOR	Majlis Bandaraya Shah Alam	Canseleri Tuanku Syed Sirajuddin	1	1,248.04	1,109.90	12.40					157.15	12.40
12.	SELANGOR	Majlis Bandaraya Shah Alam	Fakulti Sains Komputer & Matematik, UiTM	1	2,156.40	1,417.93	34.25					738.48	34.25

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DIAMOND RECOGNITION SUMMARY – LOW CARBON PARTNER													
No.	State Name	Local Authority Name	Zone/Partner Name	Elements	Baseline	Audit	Reduction In Each Element				Sequestration (tCO ₂)	Reduction	
							Energy %	Water %	Waste %	Mobility %		(tCO ₂ e)	%
13.	SELANGOR	Majlis Bandaraya Shah Alam	Pusat Kesihatan, UiTM	1	340.01	317.00	6.77					23.01	6.77
14.	SELANGOR	Majlis Bandaraya Shah Alam	Kompleks Kejuruteraan, UiTM	1	13,590.61	9,717.40	28.50					3,873.21	28.50
15.	SELANGOR	Majlis Bandaraya Shah Alam	Fakulti Senibina Perancangan dan Ukur, UiTM	1	1,319.01	1,167.45	11.49					151.56	11.49
16.	SELANGOR	Majlis Bandaraya Shah Alam	Bangunan Ibu Pejabat PKNS	1	2,458.92	2,350.74	4.4					108.18	4.4
17.	SELANGOR	Majlis Bandaraya Shah Alam	Masjid Sultan Salahuddin Abdul Aziz Shah	1	2,219.23	1,742.63	21.48					476.60	21.48
18.	SELANGOR	Majlis Bandaraya Shah Alam	Avisena Specialist Hospital	1	3,881.54	3,672.93	5.37					208.61	5.37
19.	MELAKA	Majlis Perbandaran Hang Tuah Jaya	Kompleks Melaka Mall	1	3,924.71*	3,009.06	23.33					915.65	23.33
20.	SELANGOR	Majlis Daerah Hulu Selangor	Masjid Jamek Ar-Rahimah	2	76.68	75.93	3.35	-27.35				0.74	0.94
TOTAL SEQUESTRATION/EMISSION REDUCTION											1,007.68	9,683.25	

APPENDICES

PROVISIONAL CERTIFICATE SUMMARY													
No.	State Name	Local Authority Name	Zone/Partner Name	Elements	Baseline	Energy %	Water %	Waste %	Mobility %	Sequestration (tCO ₂)			
Low Carbon Zones													
1.	SELANGOR	Majlis Perbandaran Klang	Zon LCC 1: Pusat Bandar Klang Selatan	1	2,365.26	-	-	-	-	55.49			
Low Carbon Patners													
1.	JOHOR	Majlis Perbandaran Batu Pahat/Universiti Tun Hussein Onn Malaysia	Faculty of Technology Management & Business	3	1,053.29					4.5			
2.	MELAKA	Majlis Perbandaran Hang Tuah Jaya	SMK Tun Mutahir	3	484.66								
3.	PAHANG	Majlis Perbandaran Kuantan	Kompleks Ibu Pejabat MPK	3	1,831.92								
4.	MELAKA	Majlis Perbandaran Hang Tuah Jaya	SK Bukit Beruang	2	38.54								
5.	MELAKA	Majlis Perbandaran Hang Tuah Jaya	SK Taman Merdeka	2	184.30								
6.	MELAKA	Majlis Perbandaran Hang Tuah Jaya	SK Dato' Demang Hussin	2	69.91								
7.	SELANGOR	Majlis Bandaraya Petaling Jaya	PJ Smart Centre	2	104.76					0.12			
8.	SELANGOR	Majlis Bandaraya Shah Alam	Avisena Women And Children Hospital	1	4,994.56								
9.	JOHOR	Majlis Perbandaran Pengerang/Perisind Samudera Sdn Bhd.	Inkubator at Pengerang	1	3.06					2.26			
10.	SELANGOR	Majlis Perbandaran Klang	Jabatan Perkhidmatan Persekitaran MPK	1	173.60	-	-	-	-	-			
11.	SELANGOR	Majlis Perbandaran Klang	Jabatan Penguatkuasa MPK	1	11.66	-	-	-	-	1.63			
12.	SELANGOR	Majlis Perbandaran Klang	SAM Sultan Hisamuddin Sg. Bertih	1	182.08	-	-	-	-	-			
13.	SELANGOR	Majlis Perbandaran Klang	Masjid Kampung Raja Uda	1	102.96	-	-	-	-	0.66			
14.	SELANGOR	Majlis Perbandaran Klang	Ibu Pejabat Lembaga Pelabuhan Kelang	1	591.36	-	-	-	-	-			

APPENDICES

PROVISIONAL CERTIFICATE SUMMARY										
No.	State Name	Local Authority Name	Zone/Partner Name	Elements	Baseline	Energy %	Water %	Waste %	Mobility %	Sequestration (tCO ₂)
15.	SELANGOR	Majlis Perbandaran Klang	SMK (P) Raja Zarina	1	111.83	-	-	-	-	-
16.	SELANGOR	Majlis Perbandaran Klang	KAFA Integrasi al-Falah Sg. Pinang	1	7.00	-	-	-	-	-
17.	SELANGOR	Majlis Perbandaran Klang	SK St. Anne Convent	1	25.01	-	-	-	-	4.58
18.	SELANGOR	Majlis Perbandaran Klang	SK Bukit Kapar	1	88.54	-	-	-	-	6.00
19.	SELANGOR	Majlis Perbandaran Klang	SJK (C) Hin Hua Klang	1	993.54	-	-	-	-	4.12
20.	SELANGOR	Majlis Perbandaran Klang	SK Taman Gembira	1	221.67	-	-	-	-	4.32
21.	SELANGOR	Majlis Perbandaran Klang	Pejabat Daerah & Tanah Klang	1	934.66	-	-	-	-	2.50

GLOSSARY

NO.	ABBREVIATION	FULL NAME
1.	ACE	ASEAN Centre of Energy
2.	AEA	ASEAN Energy Awards
3.	AEMAS	ASEAN Energy Management and Accreditation Scheme Programme
4.	AHU	Air Handling Unit
5.	AMS	ASEAN Member States
6.	APEC	Asia-Pacific Economic Cooperation
7.	ASEAN	Association of Southeast Asian Nations
8.	BEA	Basic Energy Auditor
9.	BEI	Building Energy Index
10.	BEIS	Department for Business, Energy and Industrial Strategy, UK
11.	BEMS	Building Energy Management System
12.	BIOGEN	Biomass Power Generation and Co-generation
13.	BIPV	Building-integrated photovoltaics
14.	BMUB	Germany's Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
15.	BMV	Basic Measurement and Verification
16.	CEA	Certified Energy Auditor
17.	CEAT	Certified Energy Auditor Training
18.	CETREE	Centre of Education & Training in Renewable Energy, Energy Efficiency & Green Technology
19.	CEO	Chief Executive Officer
20.	CIS	Commonwealth of Independent States
21.	CMC	Chilled Metal Ceiling
22.	CMCO	Conditional Movement Control Order
23.	CO ₂	Carbon Dioxide

NO.	ABBREVIATION	FULL NAME
24.	CO ₂ e/CO ₂ eq	Carbon Dioxide Equivalent
25.	COO	Chief Operating Officer
26.	CPMV	Certified Professional in Measurement and Verification
27.	CPP	Certification and Professional Programme
28.	CSR	Corporate Social Responsibility
29.	DECC	Department of Energy and Climate Change, UK
30.	Dr	Doctor
31.	EACG	Energy Audit Conditional Grant
32.	EE	Energy Efficiency
33.	EMCP	Energy Management and Climate Change Programme
34.	EMEER	Efficient Management of Electrical Energy Regulations
35.	EMGS	Energy Management Gold Standard
36.	EMTC	Energy Manager Training Course
37.	En-ROADS	Energy-Rapid Overview and Decision-Support
38.	EPIC	Environmental Preservation & Innovation Centre
39.	EPU	Economic Planning Unit
40.	ESCOs	Energy Service Companies
41.	EV	Electric Vehicle
42.	EWMT	Energy and Water Management Training
43.	FIEM	Fellow of the Institution of Engineers Malaysia
44.	FTA	Free Trade Agreement
45.	GDP	Gross Domestic Product
46.	GEO	Green Energy Office
47.	GGA	Global Growth Acceleration
48.	GGP	Government Green Procurement

GLOSSARY

NO.	ABBREVIATION	FULL NAME
49.	GHG	Greenhouse Gas
50.	GITA	Green Investment Tax Allowance
51.	GITE	Green Income Tax Exemption
52.	GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
53.	GTFS	Green Technology Financing Scheme
54.	GTMP	Green Technology Master Plan
55.	HODA	Hands-on Data Analysis
56.	Hons	Honours
57.	HR	Human Resource
58.	HWDE	Have We Done Enough
59.	ICE	Internal Combustion Engine
60.	IGEM	International Greentech and Eco Products Exhibition and Conference Malaysia
61.	IJN	Institut Jantung Negara/National Heart Institute
62.	ILB	Industry Lead Body
63.	IP	Intellectual Property
64.	Ir	Ingenieur/Professional Engineer
65.	JEMGS	Journey to Energy Management Gold Standard implementation
66.	KASA	Ministry of Environment and Water
67.	KeTSA	Energy Sector, Ministry of Energy and Natural Resources
68.	KeTTHA	Formerly the Ministry of Energy and Natural Resources
69.	KPI	Key Performance Indicator
70.	LC4	Low Carbon City Carbon Calculator
71.	LCC	Low Carbon Cities
72.	LCC2030C	Low Carbon Cities 2030 Challenge

NO.	ABBREVIATION	FULL NAME
73.	LCCF	Low Carbon Cities Framework
74.	LCMB	Low Carbon Mobility Blueprint 2021-2030
75.	M&V	Measurement and verification
76.	MBI	Majlis Bandaraya Ipoh
77.	MBIPV	Malaysian Building Integrated Photovoltaic Technology Application
78.	MBOT	Malaysia Board of Technologists
79.	MBPG	Majlis Bandaraya Pasir Gudang
80.	MCAS	Malaysia Climate Action Simulator
81.	MCO	Movement Control Order
82.	MDHS	Majlis Daerah Hulu Selangor
83.	MESTECC	Minister of Energy, Science, Technology, Environment and Climate Change
84.	MGTC	Malaysian Green Technology and Climate Change Centre
85.	MIDA	Malaysian Investment Development Authority
86.	MICCI	Malaysia International Chamber of Commerce
87.	MNC	Multinational Corporation
88.	MOA	Memorandum of Agreement
89.	MOF	Ministry of Finance
90.	MOHR	Ministry of Human Resources
91.	MOSTI	Ministry of Science, Technology and Innovation Malaysia
92.	MOU	Memorandum of Understanding
93.	MPLBP	Majlis Perbandaran Langkawi Bandaraya Pelancongan
94.	MREPC	Malaysia Rubber Export Promotion Council
95.	MyRelamp	Government Green Procurement Pilot Project
96.	NCP	Non-Certification and Awareness Programme

GLOSSARY

NO.	ABBREVIATION	FULL NAME
97.	NDC	Nationally Determined Contribution
98.	NEA	National Energy Awards
99.	NEEAP	National Energy Efficiency Action Plan
100.	NGO	Non-Governmental Organisations
101.	NGTP	National Green Technology Policy
102.	NOSS	National Occupational Skills Standards
103.	OA	Occupational Analysis
104.	PBT	Local authorities
105.	PDRM	Polis Diraja Malaysia
106.	PEM	Professional Energy Manager
107.	PEX	Cross-linked Polyethylene
108.	PhD	Doctor of Philosophy
109.	PPSTI	Policy Partnership on Science, Technology and Innovation
110.	R&D	Research and Development
111.	R&D&C	Research, development and commercialisation
112.	RCEP	Regional Comprehensive Economic Partnership
113.	RE	Renewable Energy
114.	REEM	Registered Electrical Energy Manager
115.	RMK11	11th Malaysia Plan
116.	RMK12	12th Malaysia Plan
117.	SCP	Sustainable Consumption and Production
118.	SCP	Short Course Programme
119.	SD	Sustainable Development
120.	SEBs	Specialised Energy Bodies
121.	SEDA	Sustainable Energy Development Authority

NO.	ABBREVIATION	FULL NAME
122.	SEMS	Sustainable Energy Management System
123.	SME	Small and Medium-sized Enterprises
124.	SOPs	Standard Operating Procedures
125.	SRI	Sustainable and Responsible Investment
126.	STI	Science, Technology and Innovation
127.	tCO ₂ e/tCO ₂ eq	Tonnes of Carbon Dioxide Equivalent
128.	UiTM	Universiti Teknologi MARA
129.	UNSDGs	United Nations Sustainable Development Goals
130.	UN-SDSN	United Nations Sustainable Development Solutions Network
131.	UK	United Kingdom
132.	UKM	Universiti Kebangsaan Malaysia
133.	US/USA	United States of America
134.	UTM	Universiti Teknologi Malaysia
135.	WFH	Work From Home
136.	WKB2030	Shared Prosperity Vision 2030
137.	WTO	World Trade Organization
138.	YB	Yang Berhormat/The Honourable
139.	YBM	Yang Berhormat Menteri/The Honourable Minister
140.	YBTM	Yang Berhormat Timbalan Menteri/The Honourable Deputy Minister
141.	ZEB	Zero Energy Building

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