

Malaysia`s Green Technology



Cash in on Malaysia's Green Nation

Be a part of Malaysia's growing Green Technology industry

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Malaysia is one of ASEAN's most biodiverse and technologically progressive countries that is blessed with rich biodiversity and a lush, heavily forested environment. Untapped opportunities for investments in green growth abound in this natural haven with its precious and large array of renewable energy sources





Pangi Hydroelectric Station in Tenom, Sabah, Malaysia



Semporna, Sabah, Malaysia

The Rise of Malaysia's Green Haven

Malaysia is one of ASEAN's most biodiverse and technologically progressive countries that is blessed with rich biodiversity and a lush, heavily forested environment. Untapped opportunities for investments in green growth abound in this natural haven with its precious and large array of renewable energy sources. With a record of over five decades of unstoppable economic growth, the nation known for its sun and seas is now a trusted business partner and home to more than 5,000 foreign businesses from 40 countries – all of whom have entrusted their confidence and investment dollars to this tropical nation's potential.

Another strategic reason that makes Malaysia one of South East Asia's favourite investment destinations is that the country is no stranger to the sustainable development journey. The nation's treasure trove of natural resources is supplemented by the well-established New Economic Policy (NEP) – a running five-year development plan introduced in the 1970s that has underpinned all development in the country ever since, instilling essential elements of sustainable economic development.

In 2009, Malaysia's formulation of the New Economic Model (NEM) further galvanised the nation's pursuit of sustainable development based on the pillars of high income, inclusivity, and sustainability. These pillars mirror the three elements of the SDGs: economy, social, and environment, and were the basis for the current five-year Malaysia plan – the 11th Malaysia Plan (2016-2020), "Anchoring Growth on People".

Some of Malaysia's SDGs achievements to date include:

- SDG 6: Over 95% coverage for water and sanitation, and electricity supply at the national level
- SDG 7, 12 and 16: Laws, regulations, policies, and plans in place to better protect and ensure sustainable use of natural assets
- SDG 13, 14, 15, &17:
 - ◆ Forest cover: Maintained more than 50%
 - ◆ Terrestrial protected areas: 10.76%
 - ◆ Carbon intensity: Reduced by 33% since 2009, increasing renewable energy capacity
 - Malaysia also participates in international trans-boundary conservation efforts like the Coral Triangle and the Heart of Borneo initiatives



In recent years, Malaysia has accelerated its pursuit of a low-carbon and more resource-efficient energy economy path to protect its irreplaceable environmental assets and to create wealth for investors and the rakyat.

Overview of Malaysia's Green Technology industry

Malaysia's Green Technology agenda consists of a series of measures, commitments, and integrated policies that aim to increase the uptake of Green Technology in all sectors, in order to reduce fossil fuel energy consumption and carbon footprint levels. In addition to being a responsible steward of the environment, Malaysia is also prepared to persevere on a green revolution journey to become a major global Green Technology hub, innovator and producer.

Green Technology projects and services has shown tremendous growth over the last nine years—from 29 projects in 2010 with investments of only RM606.65 million to 439 projects with a total investment of RM4.36 billion in 2019. There were also 1,024 employment opportunities created from these sectors



A total of 1,444 Green Techonology projects and services

Total investments of RM28.95 billion were approved with 88.65% contributed by domestic investment

Definition of Green Technology

The development and application of products, equipment, and systems used to conserve the natural environment and resources, and minimise the negative impact of human activities (based on Malaysia's National Green Technology Policy).

Top 4 reasons to invest in Malaysia's Green Technology revolution:

- Spawning of business opportunities in solar projects for both commercial and industrial users through programmes like Net Energy Metering (NEM), Large Scale Solar (LSS)
 and Solar Leasing
- Investors can tap into non-solar resources such as biomass and biogas (especially from palm mill waste), mini hydro, and geothermal. Numerous investment
 opportunities in other Green Technology projects like Green Building, Green Data Centre and Integrated Waste Management are also present
- Companies can reap the cost-effective benefits of existing energy-efficient measures across all sectors
- There are a plethora of investment prospects for Green Technology service providers due to the uprising of market demand for a greener economy



National policies aligned to spur industry development

Green Technology has been earmarked as a new growth area for Malaysia. As such, the green energy revolution is progressing well, largely due to the Government's concerted efforts to develop the industry, as seen in its global pledges, national initiatives, and policies to date:

Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) 2016:

Malaysia has made a commitment to reduce Greenhouse Gas (GHG) emissions by 45 per cent by 2030 in relation to its 2005 GDP. This target was set with 35 per cent on unconditional basis and 10 per cent on conditional basis upon receipt of climate finance funding, technology transfer, and capacity building from developed countries.

• In 2014, the GHG emissions intensity per unit of GDP— taking into account Land Use, Land-Use Change and Forestry (LULUCF) emissions only—improved by approximately 27 per cent compared to its 2005 levels. GHG emission intensity per unit GDP improved by 33 per cent in 2014 (including the removals by LULUCF) compared to the 2005 levels. Malaysia also committed to maintain a minimum forest and tree conservation level of 50 per cent. The country's main GHG emission contributors are from the energy industries, transport, manufacturing industries and industrial processes, waste, and the agriculture sector

National Policy: National Green Technology Policy (NGTP)

- Launched on 24 July 2009 to harness Green Technology as a driver to accelerate the national economy and promote sustainable development. The emphasis is on four focus areas of green initiatives: energy, building, transportation, and waste management
- Criteria of Green Technology:
- It minimises the degradation of the environment;
- It has zero or low greenhouse gas (GHG) emission;
- It is safe for use and promotes a healthy and improved environment for all forms of life;
- It conserves the use of energy and natural resources;
 and
- It promotes the use of renewable resources
- The four pillars of green technology are:



Energy
Seek to attain energy
independence and to
promote efficient utilisation



Conserve and minimise the impact on environment



Enhance the national economic development through the use of technology



Social Improve the quality of life for all

The Eleventh Malaysia Plan (2016-2020) strategies:

- Explores new Renewable Energy (RE) sources and enhances capacity of RE personnel
- RE target of 20% in national power generation energy mix by 2025
- Promotes the use of RE sources based on the national target by 2020, which are as follows:



To implement net energy metering initiatives

Source: Sustainable Energy Development Authority and Economic Planning Unit

The National Energy Efficient Action Plan (NEEAP 2016-2025)

- The NEEAP, announced on 6 January 2016, is a catalyst for Malaysia's adoption of energy efficiency in the public and private sectors
- The target of NEEAP is to save electricity and reduce electricity demand growth. It seeks to attain efficient energy usage and conservation over the next 10 years
 - NEEAP target (2016 2025): National energy savings in 10 years of 52,233GWH (8% reduction), which will contribute to CO2 reduction of 37,702 ktCO2eq

The Tenth Malaysia Plan, 2011-2015:

 Recognised the importance of environmental sustainability as part of a comprehensive socio-economic development plan

National Policy: Green Technology Master Plan GTMP (2017-2030)

- An outcome of the Eleventh Malaysia Plan (2016-2020) which has earmarked green growth as one of six game changers altering the trajectory of the nation's growth
- Formulated to stimulate the sustainable growth of energy sectors in the country. A framework which facilitates the mainstreaming of Green Technology into the planned developments of Malaysia while encompassing the pillars set in the National Green Technology Policy (NGTP)
- Its key points are embedded in 6 sectors:















7 out of 17 SDGs are outlined in the GTMP



This roadmap is aimed to help the sector achieve **USD43** billion in revenue



Aims to create more than

200,000 green jobs by 2030



(RETR) 2035:

Building

The Renewable Energy Transition Roadmap

- The RETR will strike a balance between environmental targets and policies, affordability/economic benefits and system stability
- RETR 2035 is currently being developed by SEDA in collaboration with industry stakeholders to determine strategy, comprehensive action plans and resources required to transit to the future electricity system and achieve RE targets
- The outcome of the roadmap is to be part of the 12th Malaysia Plan (2021-2025)

The Renewable Energy Act, 2011:

- Aims to increase electrivity generation from RE sources of energy (solar photovoltaic, biogas, biomass and small hydropower) via a Feed-in Tariff (FiT) mechanism which allows producers and users to sell excess power to the national power grid
- 'Renewable resources' refers to the recurring and non-depleting indigenous resources or technology, as set out in the first column of the Schedule of the RE Act 2011, and includes the following:



Solar Photovoltaic



Biogas



Biomass



Mini Hydopower



Geothermal

Malaysia's

on Green

Technology

National Policy

Policy

The Ministry of Housing and Local Government (KPKT)

The Ministry of Environment and Water (Mewa)

The Ministry of Energy and Natural Resources

Sustainable Energy Development Authority (SEDA) Malaysia

Energy Comission (ST)

Malaysian Green Technology and Climate Change Centre (MGTC)

Malaysian Investment Development Authority (MIDA)

SWCorp Malaysia

Department of Environment (DOE)

Indah Water Konsortium Sdn. Bhd. (IWK)

Malaysian Photovoltaic Industry Association (MPIA)

Waste Management Association of Malaysia (WMAM)

Malaysia Association of Energy Service Companies (MAESO)

Malaysia Biomass Industries Confederation (MBIC)

Malaysia Small Hydro Industry Association (MASHIA)

The Institution Of Engineers, Malaysia (IEM)

Manufacturer

Solar Panel

LONGi (KCH) Sdn. Bhd.

JA Solar Malaysia Sdn. Bhd.

First Solar Malaysia Sdn. Bhd.

SunPower Malaysia Manufacturing Sdn. Bhd.

Jinko Solar Technology Sdn. Bhd.

Hanwha Q CELLS Malaysia Sdn. Bhd.

Panasonic Energy Kulim Hi-Tech Malaysia Sdn. Bhd.

Inverter

Huawei Technologies (Malaysia) Sdn. Bhd.

ABB Malaysia Sdn. Bhd. SolarEdge

Energy Efficiency

Honeywell International Sdn. Bhd.

Andritz Power Sdn. Bhd.

Siemens Malaysia Sdn. Bhd.

Grundfos Pumps Sdn. Bhd.

Truwater Cooling Towers Sdn Bhd

Atlas Copco (Malaysia) Sdn. Bhd.

GE Power Systems (Malaysia) Sdn. Bhd

Service Provider & Facilitator

Solar

Plus Solar Systems Sdn. Bhd.

ERS Energy Sdn. Bhd.

Pekat Teknologi Sdn. Bhd.

Ditrolic Solar Sdn. Bhd.

Solarvest Energy Sdn. Bhd.

Biogas & Biomass

Choon Hin Environmental Sdn. Bhd.

Wil-Key International Sdn. Bhd.

Treehouz Asia Sdn. Bhd.

Waste Management

Enviro Group

Cenviro Sdn. Bhd.

Green Building

Green Building Index Sdn. Bhd.
GreenRE Sdn. Bhd.
MyCREST

Financial Assistance

- Loan, green sukuk, green bond, redeemable, preference shares

> United Overseas Bank (Malaysia) Berhad

CIMB Bank Berhad

Maybank Berhad

Bank of China

Industrial and Commercial Bank of China (ICBC)

HSBC Bank Malaysia Bhd.

AmBank (M) Berhad

Malaysia Building Society Berhad (MBSB) Bank Berhad

Malaysia Venture Capital Management Berhad (MAVCAP) Ecosystem -Green Technology Industry in Malaysia

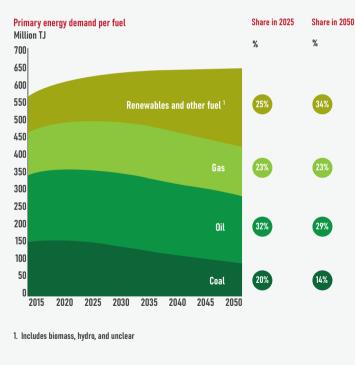
Noteworthy global trends impacting the future of energy

- Countries continually seek ways to meet rising energy demand while reducing carbon emissions
- Many are shifting to lower carbon energy systems to meet the Paris Agreement climate goals
- Diverse energy sources are explored to sustain rising energy consumption needs in green and environmentally friendly steps
- Industrial demand is projected to drive 70% of developing countries' energy needs in 2040
- The shares of electricity-powered passenger vehicles are projected to rise to 25% by 2040, due to rising fully-autonomous cars and shared-mobility services
- Renewable energy (RE) is the fastest rising energy source responsible for about half of the energy spike, with natural gas surpassing oil or coal

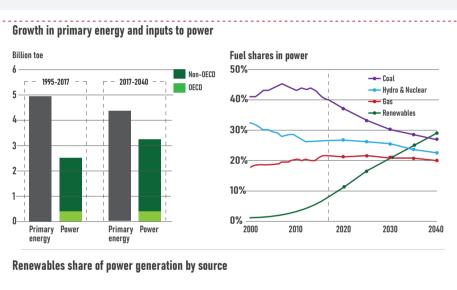
Insights in the following chapters: 2 Electricity consumption doubles until 2050, while renewables make

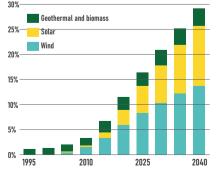
up over 50% of generation by 2035

- 3 Gas continues to grow its share of global energy demand - the only fossil fuel to do so - and then plateaus after 2035
- 4 Oil demand growth slows down substantially, with a projected peak in the early 2030s
- 5 Carbon emissions are projected to decline due to decreasing coal demand, yet a 2- degree pathway by 2030 remains far away



Source: McKinsey Energy 'Insights' Global Energy Perspective, January 2019





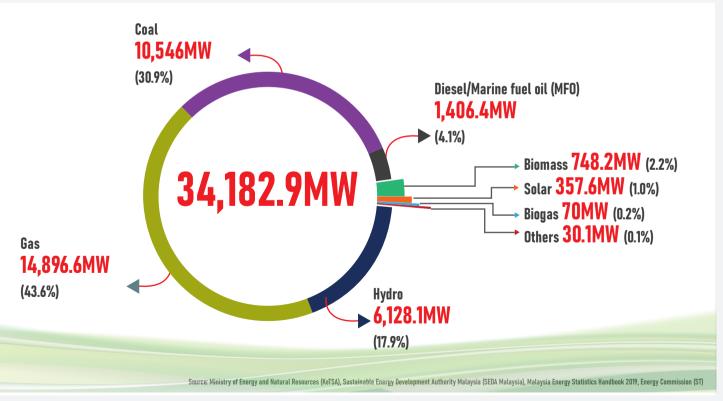
Rapid growth in wind and solar due to declining costs as they move down learning curves

Source: BP Energy Outlook 2019 Edition

Renewable Energy: A Wealth of Potential

Malaysia's current power generation mix is largely dependent on fossil fuels such as gas, liquefied natural gas (LNG), and coal. The balance relies on hydro, distillates, and renewable energy. Under the Eighth Malaysia Plan (2001–2005), the Malaysian Government expanded the Four-Fuel Policy (oil, gas, coal, and hydropower) to a Five-Fuel Diversification Policy, and has included renewable energy (RE) as a fifth source of fuel.

Opportunities to tap on Malaysia's RE sources abound as the primary renewable enery sources (solar, biomass, biogas, and hydro power) contributed just 7.1 per cent in 2017. Although there was a 1.7 per cent increase versus 2016, there is much room for growth as the Government's target is to achieve 20 per cent Renewable Energy (RE) capacity mix by 2025.



Malaysia Installed Capacity Mix as of 2017

The power of solar

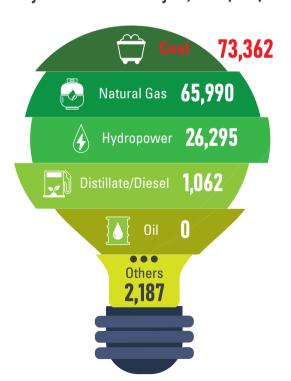
Malaysia's ideal location in the "sun belt" is a natural sell for its solar market growth potential. In addition, a few globally renowned photovoltaics companies have hailed Malaysia's qualified workforce in the fields of electronics and semiconductors as well as its good local infrastructure and reliable power supply (which is critical for photovoltaic production processes) as other key reasons for the nation's commendable growth in the sector.

- Malaysia's solar photovoltaics (PV) industry is on the rising trend thanks to strengthening government support, growing investors confidence, and reducing costs
- Malaysia has emerged as an international hub for the manufacture of PV cells, wafers, and modules
- Malaysia is ASEAN's biggest PV employer, with more than 54,300 industry employees in 2018 (up from 40,300 in 2017), and is sixth globally in the list of top solar PV employers, according to IRENA (International Renewable Energy Agency in June 2019). Overall, IRENA estimates Malaysia's renewable energy workforce to have grown from 87,400 jobs in 2017 to 98,500 in 2018

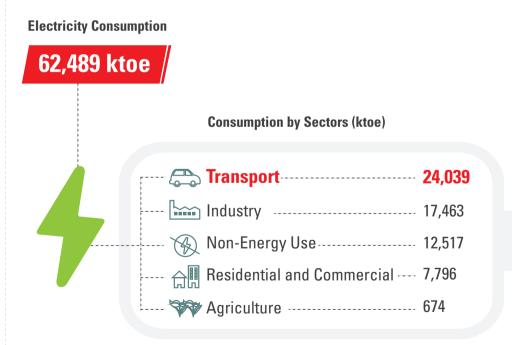
Main Fuels for Electricity Generation in Malaysia, 2018 (GWh)

In 2018, energy generation (i.e. electricity) totalled 168,897GWh.

The sources of the energy generation mix are as follows:



Electricity Consumption by Sectors in 2017 are as follows:



Renewable energy potential in Malaysia (in MW)

The country's impressive **RE potential** for renewable sources of energy from varying sources are:

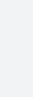


22,000



6,500



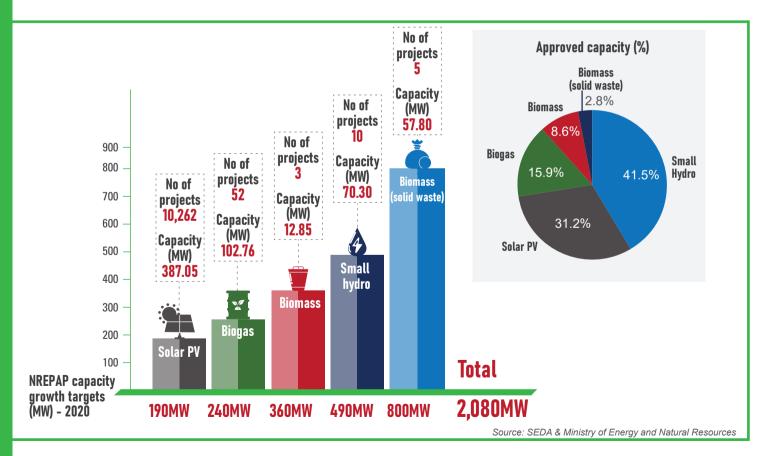


Mini Hydro power (Below 30MW)



400

Source: Malaysia Energy Commission.

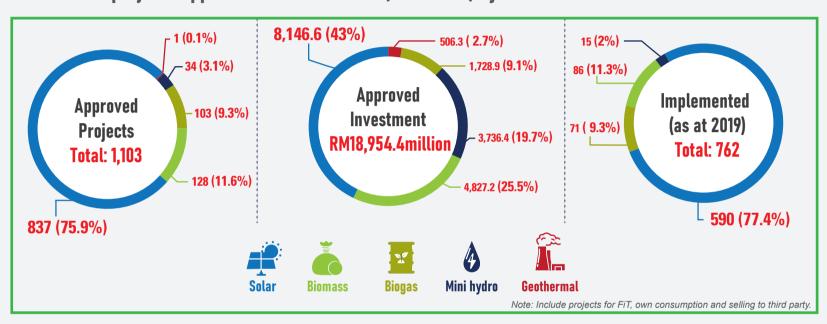


Total RE
Generation
Capacities under
Feed-In Tariff
Mechanism

To boost RE growth, the Feed-in tariff (FiT) scheme was introduced under the Renewable Energy (RE) Act 2011. At its heart, the scheme enables independent providers to sell electricity from RE sources to utility companies like Tenaga Nasional Berhad (TNB) and Sabah Energy Sdn. Bhd. (SESB)

• FiT Progress: As of August 2020, a total of 634.99MW in FiT guota has been commissioned and is in operation

Status of RE projects approved with incentives (2001-2019) by MIDA



RE Projects
Approved with
Incentives

The bulk of Investments in RE were contributed by domestic companies (88.28%), and the rest from foreign companies (11.72%):



Total employment: 13,612

Malaysian: RM16,724.9 million



Foreign: RM2,220.5 million

Approval of green services with Incentives (2016-2019): No of green services projects approved: **59**





Total employment:

Malaysian: RM272.11 million



Foreign: RM28.58 million

Numerous investment opportunities in Renewable Energy's promoted activities

Profitable opportunities await investors in Malaysia's RE front. The following RE sources are of particular interest:



Abundant resource

- **Abundant resource**: Oil palm waste is the main source of biomass for renewable energy. Generated by the vast (455 FFB mills) number of oil palm plantations and mills in the country



Location

- The right location: Malaysia's advantageous geographical location at the equator renders a daily sunshine exposure of six hours, adding up to more than 2,200 hours per year
- Complete value chain: All efforts to boost RE's investment growth has borne much fruit in solar PV, as it has contributed towards the development of the entire value-chain of the industry from the manufacturing of RE equipment right up to installations of RE equipment to generate energy
- Preferred by the top global solar PV manufacturers: Big names such as First Solar Malaysia Sdn. Bhd., SunPower Malaysia Manufacturing Sdn. Bhd., Hanwha Q CELLS Malaysia Sdn. Bhd., Panasonic Energy Malaysia Sdn. Bhd. etc. have spurred the growth of the solar value chain through the production of poly silicon, solar ingot, wafer, cell, module, balance of systems, and other solar related products
- **Strong support system**: Solar PV investments have catalysed the growth of local RE developers and PV service providers who are capable of carrying out project implementation in design, installation, testing, and commissioning of solar PV projects. More than 150 PV service providers, largely made up of local companies, have registered with the Sustainable Energy Development Authority (SEDA)



Supply of solid waste

- The quantity of solid waste has been forecasted to reach 30,000 tonnes per day by 2020. However In 2019, this forecast was exceeded as it hit 38,142 tonnes per day. As at June 2020, there are 138 landfills across Malaysia— 85 per cent of which are non-sanitary and not environmentally friendly— which have much potential for waste to energy conversion. The Government has set a target for each state to have at least one WtE incinerator in order to eliminate solid waste disposal sites in Malaysia



Abundant water resource

- **Abundant water resource**: The hydropower generation potential in Malaysia is estimated at 22,000MW. While hydropower requires substantial initial investment, electricity from hydro is affordable as its cost will not be affected by changing market-driven fuel prices in the long run



Wind and Ocean Thermal Energy Conversion (OTEC)

- Wind

- Based on the joint preliminary study between SEDA and the University of Malaysia Terengganu (UMT), wind power energy has little potential to be developed
 because Malaysia has low wind speeds of 2-3 metres per second, However, there are some areas in Malaysia that do encounter strong winds periodically hence,
 potential business opportunities in Malaysia's wind power front exists for anchor wind turbine manufacturers who wish to position Malaysia as their hub for ASEAN's
 wind energy market given ASEAN Member States (AMS)'s aspirational targets to achieve RE share of 23% by 2025
- Ocean Thermal Energy Conversion (OTEC)
- Development underway: In Malaysia, OTEC is currently under research and development stage, with potential sites being identified in Sabah and Sarawak Deep Waters

Serious About Energy Efficiency (EE)

Like other economically robust countries, Malaysia too constantly seeks new and efficient ways to conserve energy while sustaining economic growth. In Malaysia, the industrial sector is one of the largest consumers of energy, alongside transport. Other energy-intensive industries include the cement, ceramic, iron and steel; food; glass; wood; pulp and paper; rubber and oleo chemical; plastic; and textile industries.



Investments in EE projects (2001-2019)

Current status





Total employment:

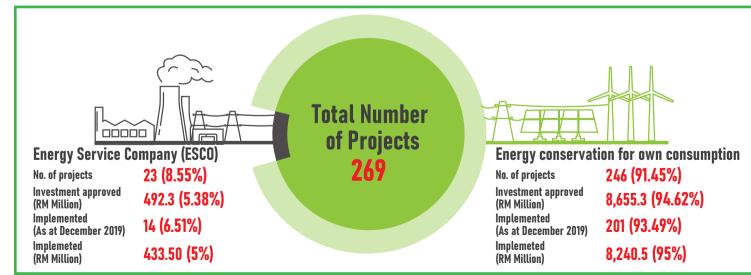
Domestic RM8.12 billion



Foreign: RM1.03 billion



Approval of Projects with Incentives (2001-2019)



Please refer to incentives for investor benefits on page 22

Integrated Waste Management: One Man's Waste is Another Man's Treasure

The higher waste generation brought about by Malaysia's increasing urbanisation and population growth poses all-new waste management challenges. To tackle this, the Government continues to devise holistic waste management strategies and measures, as a reduction in waste would decrease the overall cost of disposal, curtail environmental degradation, and improve the health of the population.

Ecosystem

Spectrum of integrated waste management activities:



Waste generation





Collection





Transportation



Recovery



Treatment and disposal

Status of approvals for recycling projects from 1980-2019 by MIDA



Integrated waste management promoted activities

Waste recovery / treatment / recycling

- Investor opportunities:
 - More than 60% of total solid wastes in Malaysia are recyclables. Since the quantity of solid waste hit 38,142 tonnes per day in 2019 (exceeding the forecast of 30,000 tonnes per day by 2020), and given the targeted recycling rate for 2025 of 40 per cent (up from 30.67 per cent in 2020), much opportunity exists for recovery and treatment
 - ◆ Furthermore, as at June 2020, 85% of the 138 landfills in Malaysia are non-sanitary and not environmentally friendly
 - Potential activities before landfill disposal: For recyclable wastes recovery, sorting, and treatment. For non-recyclable waste-treatment
 - ✓ The Government's target is for each state to have at least one incinerator of waste-to-energy (WtE) plant in a move to do away with solid waste disposal sites with plans to set up six WtE plants towards 2025 based on various new technologies
 - Composting to recycle organic wastes

Types of incentives for waste management activities

For recycling of waste activities, the Promotion of Investments Act, 1986 applies as follows:



- Environment Management
 - -Recycling of waste
 - Toxic and non toxic waste
 - Chemicals
 - · Reclaimed rubber
- Applicable to all industries

e.g. Metal & Alloys, Chemical, Textile, Electrical & Electronic



Pioneer Status (PS)

Income tax exemption of **70%** of the statutory income for a period of **5 years**; or

Investment Tax Allowance (ITA)
 Investment tax allowance of 60% on the qualifying capital expenditure incurred within a period of 5 years to be offset 70% of the statutory income





- For Waste recycling, companies are not allowed to import waste
- Subjected to minimum value added requirement
- Managerial, Technical & Supervisory (MTS) ratio based on specific industry

For further details, refer to MIDA at www.mida.gov.my

Integrated Waste Management Companies which undertake / invest in waste recycling, recovery, or treatment, plus additional activities such as composting, storage, collection, or disposal can be considered for Green Investment Tax Allowance (GITA).

For more details, Please refer to incentives for investor benefits on page 22

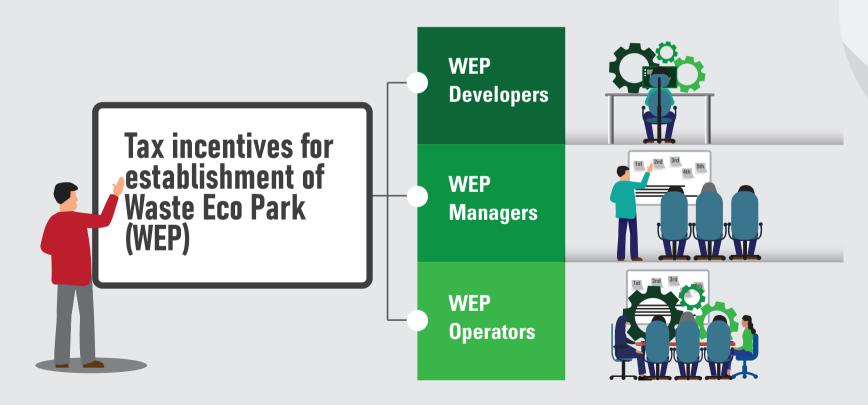
Incentives for Waste Eco Parks (WEP)

The Government has provided Waste Eco Park (WEP) incentives to promote waste management in a more integrated manner.

Purpose:

- This incentive is offered to companies developing infrastructures in Waste Eco Parks (WEPs), companies that manage WEPs and industry players which are involved in waste recycling, recovery and treatment, along with those located in WEPs
- WEPs aim to promote zero waste by relocating recycling companies (which are currently scattered and spread amongst multiple industries) to central locations within the WEP. WEPs adopt the concept that the waste generated in one industry could become resources/raw materials for another industry

Incentives are available for: WEP Developers, WEP Managers, and WEP Operators (companies operating in the WEP).





Incentives

- Income tax exemption of 70% on statutory income derived from:
 - Rental of building;
 - Rental received from the usage of waste collection and separation facility;
 - Rental received from waste water treatment facility located in the WEP effective for Y.A. 2016 until Y.A. 2025

Eligibility criteria

- Company must develop infrastructure within WEP which incorporates the following elements:
 - 1. Basic infrastructure e.g roads, drainage system, utilities and sewerage;
 - 2. Building and facility for waste receiving and separation;
 - 3. Waste water treatment;
 - 4. Building for recycling/recovery/treatment facility;
 - 5. Building education and awareness centre; and/or
 - 6. Disposal facility
- Minimum amount of investments in fixed assets (RM50 million excluding land)
- WEP must be approved by National Solid Waste Management Department (JPSPN), relevant Waste Authorities,
 State Government or Local Authorities

Submissions from 1 January 2016 until 31 December 2020



Incentives

 Income tax exemption of 70% on statutory income derived from services activities including management; maintenace; supervision and marketing of the WEP effective for Y.A 2016 - Y.A. 2025

Eligibility criteria

- Company must be appointed by the WEP Developer to provide services activities approved by the Government;
- Company is not allowed to import waste from other countries; and
- Reporting on waste received/processed to WEP developer

Effective submission date: 1 January 2016 until 31 December 2020



WEP Operators (Companies)

Incentives

Income tax exemption of 100% on statutory income for a period of 5 years, derived from the qualifying activities undertaken in the WEP; OR Income Tax Exemption equivalent to 100% of qualifying capital expenditure (Investment Tax Allowance) incurred within a period of 5 years. The allowance can be offset against 70% of statutory income for each assessment year

Eligibility criteria

- Type of activity: Waste Recovery, Recycling and Treatment;
- Periodically submit to WEP Manager all data on waste received/processed /sold to domestic or export market; and
- Company is not allowed to import waste from other countries

Effective submission date: 1 January 2016 until 31 December 2020

Investor Benefits

A wide range of Government-facilitated tax incentives, allowances, and other programmes by various ministries and agencies to support your business await you:

Government Facilitation for Green Technology

Green Technology Incentive (Green Investment Tax Allowances- GITA)

- GITA has been extended until 2023 and offered on a project basis and aims to incentivise companies which undertake Green Technology projects involving capital investments incurred for business purposes or for their own consumption, whereby such investments are expected to derive areen results
- Applications received by MIDA from 1 January 2020 until 31 December 2023 are eligible for: Green Investment Tax Allowance (GITA) of 100% of qualifying capital expenditure incurred on Green Technology project for a period of 3 years from the date of first qualifying capital expenditure incurred on/or after application received by MIDA. The first date of the qualifying capital expenditure incurred shall not be earlier than the date of application received by MIDA and it will be verified by MGTC. The allowance can be offset against 70% of the statutory income for each year of assessment. Any unutilised allowances can be carried forward to subsequent years until fully utilised
- Qualifying activities: Renewable energy, energy efficiency, integrated waste management, green buildings ,and Green Data Centres.
- Renewable energy projects i.e. biomass, biogas, mini hydro, geothermal, and solar power resources are eligible for incentives, except for solar projects where the Feed-in tariff (FiT) scheme applies

Green Technology Incentive (Green Income Tax Exemption GITE)

- Green Income Tax Exemption (GITE) aims to incentivise companies that carry out services that support the implementation and operation of Green Technology projects
- Green Income Tax Exemption (GITE) incentive has been extended to 2023 (for applications received from 1 January 2020 onwards)
- Income Tax Exemption of 70% on statutory income for qualifying green services for a period of three years from the year assessment where the first invoice issued after the application to MIDA
- Qualifying activities: Renewable energy services; energy efficiency services; services related to green buildings, Green Data Centres; green certification of products; equipment and building; green township; as well as electric vehicle (EV) services*



(excluding large hydro)

Green energy

- Renewable energy
- Solar
- Own consumption
- Net energy metering
- Large Scale Solar (LSS)
- Biomass
- Biogas
- Mini hydro (below 30MW)
- Energy efficiency
- Own consumption
- ESCO









Waste management

- Waste Eco Park
- Developer
- Manager
- Operator
- Integrated Waste Management
- Recycling











- Green building system
- Green township
- Green data centre



Electric vehicle

- Production
- Services
- Charging station
- Maintenance, repair and overhaul of EV

Incentives for Green Products /

Services

For EV Services*: Services related to installation, maintenance and repair of EV charging equipment, infrastructure and EV charging station; operation of the EV charging station; maintenance, repair and overhaul (MRO) of EV

Examples of RE service activities: System design and feasibility study, advisory and consultancy, testing and commissioning

For details, refer to MIDA at www.mida.gov.mv

Green Technology Incentive (Green Income Tax Exemption GITE Solar Leasing)

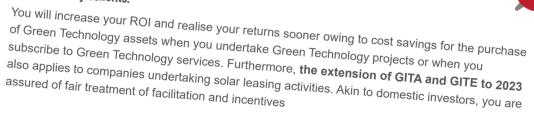
- GITE Solar leasing is given to qualifying companies which provide solar leasing services which have been verified by SEDA and listed under the RPVI Directory
- Income Tax Exemption of 70% on statutory income for solar leasing activity for a period up to 10 years of assessment. The Incentive is tier-based as follows:
 - A) > $3MW \le 10MW 5$ years
 - B) >10MW 30 MW 10 years
- Company should possess the minimum requirement to achieve installed capacity of 3 MW of solar PV projects from either; the Scheme of NEM programme or the selfconsumption (SelCo) Programme, or a combination of both. The minimum 3MW installed capacity requirement must be in commercial operation date as a prerequisite before the application is submitted to MIDA. The verification will be undertaken by SEDA prior to the submission to MIDA

For purchases of Green Assets Listed Under the MyHijau Directory: Purchases of Green Technology assets listed in MyHijau are also eligible for Investment Tax Allowance of 100% under the Malaysian Green Technology and Climate Change Centre (MGTC) until 31 December 2023.

For details, refer to Malaysian Green Technology and Climate Change Centre (MGTC) at www.greentechmalaysia.my

Summary of Green Technology Incentives

Investor key benefits:







Other programmes

Feed-in Tariff (FiT)

- ♦ The FiT mechanism allows electricity produced from an indigenous renewable energy source to be sold to authorised power utility companies (such as TNB and SESB) at a fixed premium price over a specific period of time
- ◆ Allowable foreign equity participation: Up to a maximum of 49%, as imposed by the Ministry of Energy and Natural Resources For details, refer to SEDA at www.seda.gov.mv

Green Technology Financing Scheme (GTFS) 2.0 & GTFS 3.0

- ♦ Introduced in 2010 to provide easier access to financing for green entrepreneurs
- Extended as GTFS3.0 with a fund size of RM2 billion for two years up to 2022
- ♦ Up until October 2017, the scheme channelled USD810 million to more than 302 green projects with the potential to generate USD1.56 billion worth of investments, create over 5,000 jobs, and prevent emissions amounting to 3.513 million tonnes of CO2e (carbon dioxide equivalent)
- ♦ 60% guarantee by the Government on green financing cost
- ◆ 2% rebate on the financing interest rate of Green Technology costs for the first seven years
 - Implementation agencies: Malaysia Green Technology and Climate Change Centre (MGTC), Credit Guarantee Corporation

For details, refer to www.gtfs.my

Net Energy Metering (NEM) for solar (own consumption)

The quota allocation for NEM is 500MW up to year 2020 and is divided into domestic and non-domestic categories. Implementing agency: Sustainable Energy Development Authority (SEDA) Malaysia

Introduction of **Supply Agreement with Renewable Energy (SARE)**: A tripartite agreement between customers, installers/investors, and governments for the supply and consumption of solar

For details, refer to SEDA at www.seda.gov.my

Large Scale Solar (LSS)

- Large scale solar (LSS) mechanism introduced by Energy Commission (EC) in 2016 to replace feed-in tariff (FiT)
- ♦ Competitive open bidding process based on build, own operate model under a 21 year PPA
- ♦ Installed PV capacity (end 2019) 882MW according to the International Renewable Energy Agency
- ♦ In parallel with LSS, development of Net Energy Metering (NEM) which allows solar PV generated energy to be exported back to the grid on a "one-on-one" offset basis
- ◆ LSS-1 (2016) 250MW
- ◆ LSS-2 (2017) 536MW
- LSS-3 (2019) 500MW (lowest bid price US\$0.042/KWH total bids of 6.73GW)
- ◆ LSS-4 (2020) 1GW
 - 500MW —— 10-30MW projects 30-50MW projects
 - Limited to 100% locally owned private companies or listed companies with 75% Malaysian shareholding
 - Bid deadline 2 September 2020 awards expected in Q1 2021
 - Projects are expected to start operating by 31 December 2023

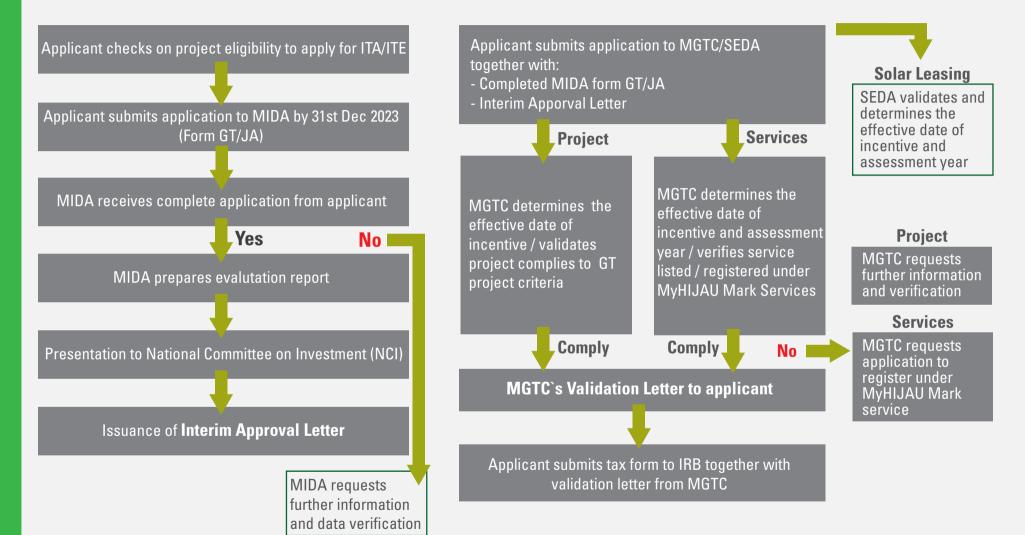


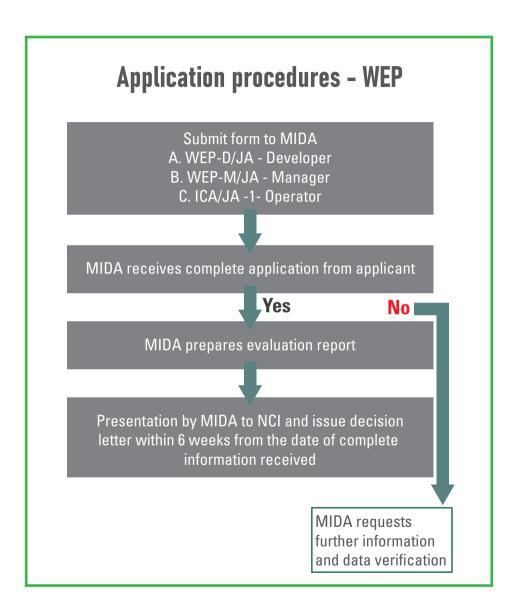
Please click on the link below to download the Guidelines and Forms for Incentives and/or Expatriate Posts for Green Technology (GT):

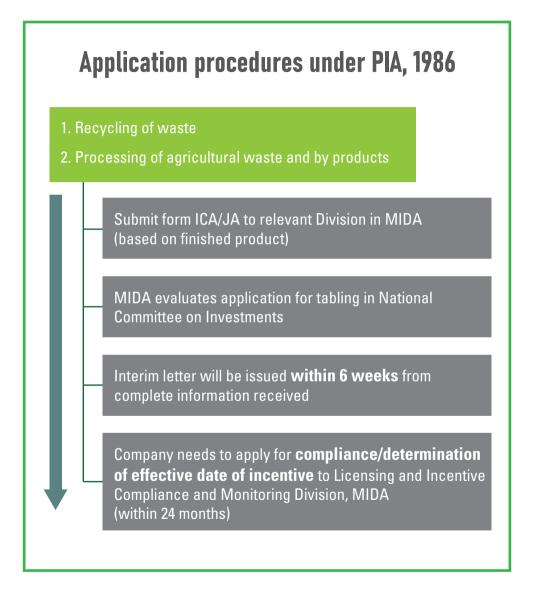
https://www.mida.gov.my/home/forms-&-guidelines-for-services-sector/posts/



Application procedures







In line with Malaysia's aim to become an inclusive and sustainable advanced nation by 2020, Green Technology (GT) has been identified as one of the drivers of the future economy for the nation that would contribute to the overall Green **Growth and Sustainable Development. Under** the National Green Technology Policy, the cross-sectoral GT focuses on four sectors namely energy, building, waste management and transportation



Next steps for your investment

Learn more about Malaysia's Green Technology Industry

List of useful links:

- 1. Ministry of Energy and Natural Resources
 - Formulate and plan policy, programmes, and activities related to the development, management, and promotion of Renewable Energy Policy
 - Monitor the management and implementation of Renewable Energy Policy

For details, refer to Ministry of Energy and Natural Resources at www.ketsa.gov.my

2. Sustainable Energy Development Authority (SEDA Malaysia) - NEM, SARE

For details, refer to SEDA at www.seda.gov.my

- 3. The National Solid Waste Management Department (JPSPN)
 - Approval/Licence requirement for States and Federal Territories under the purview of the Act:
 - Act 672: Solid Waste and Public Cleansing Management Act, 2007
 - Act 673: Public Cleansing Management (Licencing) (Management or Operation of Prescribed Solid Waste Management Facilities) Regulations, 2011 For details, refer to JPSPN at www.jpspn.kpkt.gov.my
- 4. Department Of Environment (DOE)
 - Environmental Impact Assessment (EIA) reports
 - ◆ Regulations on emission standard / discharge / release (Relevant Environmental Quality Regulations stipulated in the Environmental Quality Act, 1974) For details, refer to DOE at www.doe.gov.my
- 5. Energy Commission (EC)
 - ◆ Licence on electricity generation/distribution/ transmission
 - ◆ The Energy Commission Act 2001 (Amendment 2010)

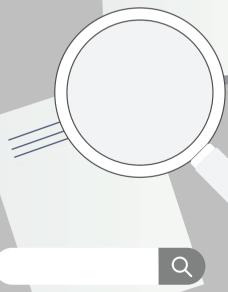
For details, refer to EC at www.st.gov.my

- 6. Malaysian Green Technology and Climate Change Centre (MGTC)
 - ◆ Green Technology Financing Scheme (GTFS) 2.0
 - Allocation: RM2 billion has been approved for the second round of the scheme to start in January 2019 and end in 2020
 - Tenure: The GTFS scheme will last for two years and will offer a 2% p.a interest/profit rate subsidy for the first seven years to borrowers
 - Guarantee Cover: 60% of financing guaranteed by the Government

For details, please refer to the GTFS website at www.gtfs.my

Annual Validation and Verification

For details, please refer to GTFS website at www.greentechmalaysia.my





Check Out How to Get Started In Malaysia

If you are a prospective investor and want to know more about how to get started with building a business in Malaysia, you can refer to these official resources:

Starting up a Business in Malaysia http://www.mida.gov.my/home/starting-up-business/posts/



Connect with MIDA

MIDA is ready to assist you. If you require more information and facilitation advice, MIDA can be reached via the following physical and digital channels:



E-mail:

investmalaysia@mida.gov.my



Address:

MIDA Business Information Center Level 2, MIDA Sentral No.5, Jalan Stesen Sentral 5 Kuala Lumpur Sentral 50470 Kuala Lumpur Malaysia



Phone:

+60 3 2267 6669



Social Media:

MIDA is now on Twitter, Facebook, Instagram, Linkedin and Youtube!
Follow us on our social media for real-time updates and infromation about the investment landscape of Malaysia















Twitter: @offcialMIDA | Facebook: @offcialMIDA | Instagram: @offcialMIDA | LinkedIn: Malaysian Investment Development Authority | I Youtube: MIDA TV



MIDA Headquarters

Malaysian Investment Development Authority, MIDA Sentral,

No.5, Jalan Stesen Sentral 5,

Kuala Lumpur Sentral, 50470 Kuala Lumpur, Malaysia

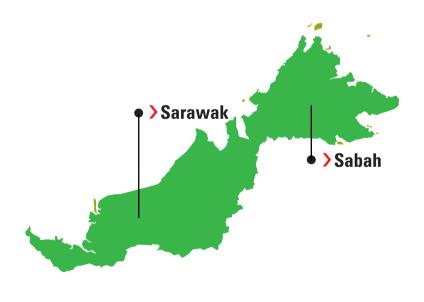
Tel: (603) 2267 3633 Fax: (603) 2274 7970

Email: investmalaysia@mida.gov.my

Website: www.mida.gov.my

MIDA State Offices





Johor

Director

Malaysian Investment Development Authority
No. 5, Level 13, Menara Tabung Haji Jalan Ayer Molek
80000 Johor Bahru

Johor Darul Takzim

Tel: (607) 224 5500 / 226 5057

Fax: (607) 224 2360

E-mail: johor@mida.gov.my

Kedah & Perlis

Director

Malaysian Investment Development Authority
4th Floor, East Wing, No. 88 Menara Bina Darulaman
Berhad Lebuhraya Darulaman

05100 Alor Setar Kedah Darul Aman Tel: (604) 731 3978 Fax: (604) 731 2439

E-mail: kedah@mida.gov.my

Melaka

Director

Malaysian Investment Development Authority 3rd Floor, Menara MITC Kompleks MITC, Jalan Konvensyen 75450 Ayer Keroh Melaka

Tel: (606) 232 2877 Fax: (606) 232 2875

E-mail: melaka@mida.gov.my

Negeri Sembilan

Director

Malaysian Investment Development Authority Suite 13.01 & 13.02, 13th Floor, Menara Zurich 70200 Seremban

Negeri Sembilan Darul Khusus

Tel: (606) 762 7921 Fax: (606) 762 7879

E-mail: nsembilan@mida.gov.my

Pahang

Director

Malaysian Investment Development Authority Suite 3, 11th Floor, Kompleks Teruntum

P.O. Box 178 25720 Kuantan

Pahang Darul Makmur Tel: (609) 513 7334

Fax: (609) 513 7333

E-mail: pahang@mida.gov.my

Perak

Director

Malaysian Investment Development Authority Level 4, Perak Techno Trade Centre (PTTC) Bandar Meru Raya, Off Jalan Jelapang

P.O.Box 210 30720 lpoh Perak Darul Ridzuan Tel: (605) 5269 962/ 961 Fax: (605) 5279 960

E-mail: perak@mida.gov.my

Pulau Pinang

Director

Malaysian Investment Development Authority Unit 14.01, Level 14 Menara Boustead Penang 39, Jalan Sultan Ahmad Shah.

10050 Pulau Pinang Tel: (604) 228 0575 Fax: (604) 228 0327

E-mail: penang@mida.gov.my

Sabah

Director

Malaysian Investment Development Authority Lot D9.4 & D9.5, Tingkat 9 Block D, Bangunan KWSP, Karamunsing

88100 Kota Kinabalu Sabah Tel: (6088) 211 411/230 411 Fax: (6088) 211 412

E-mail: sabah@mida.gov.my

Sarawak

Director

Malaysian Investment Development Authority Room 404, 4th Floor, Bangunan Bank Negara

No. 147, Jalan Satok, P.O. Box 716

93714 Kuching Sarawak Tel: (6082) 254 251/237 484

Fax: (6082) 252 375

E-mail: sarawak@mida.gov.my

Selangor

Director

Malaysian Investment Development Authority 22nd Floor, Wisma MBSA Persiaran Perbandaran 40000 Shah Alam.

Selangor Malaysia Tel: (603) 5518 4260 Fax: (603) 5513 5392

E-mail: selangor@mida.gov.my

Kelantan

Director

Malaysian Investment Development Authority

Aras 5-C, Menara Pejabat Kelantan

Trade Centre, Jalan Bayam.

15000 Kota Bharu,

Kelantan Malaysia Tel: (609) 748 3151

Fax: (609) 744 7294

E-mail: kelantan@mida.gov.my

Terengganu

Director

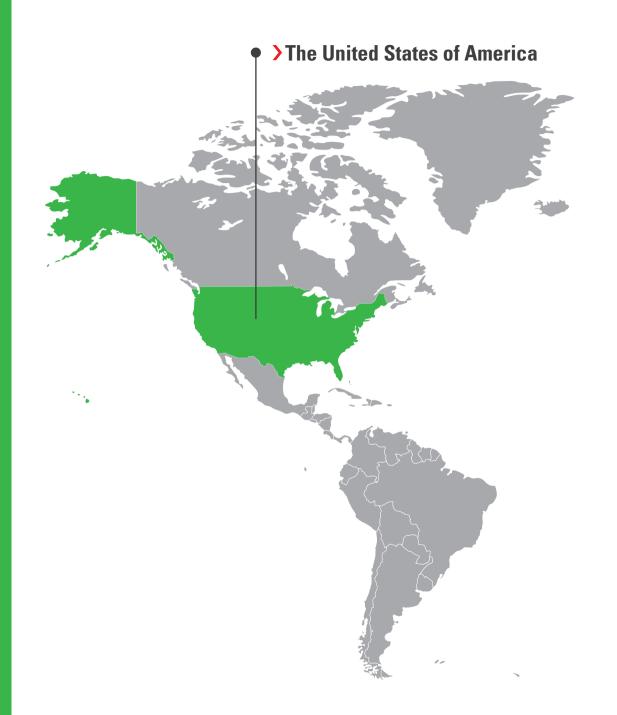
Malaysian Investment Development Authority 5th Floor, Menara Yayasan Islam Terengganu, Jalan Sultan Omar 20300 Kuala Terengganu,

Terengganu Malaysia Tel: (609) 622 7200 Fax: (609) 623 2260

E-mail: terengganu@mida.gov.my

MIDA Overseas Offices

The Malaysian Investment **Development Authority** (MIDA) is the Government's principal agency for the promotion of the manufacturing and services sectors in Malaysia. Today, MIDA is Malaysia's cutting-edge, dynamic and pioneering force in opening pathways to new frontiers around the globe





MIDA Overseas Offices Asia-Pacific Region

SINGAPORE

Consul (Investment)/Director
High Commission of Malaysia
Malaysian Investment Development Authority
No.7. Temasek Boulevard

26-01, Suntec Tower One, 038987 Singapore

Tel: (65) 6835 9326/ 9580/ 7069

Fax: (65) 6835 7926

E-mail: singapore@mida.gov.my

AUSTRALIA

Consul (Investment)/Director
Consulate of Malaysia (Investment Section)
Malaysian Investment Development Authority
Level 6, 16 Spring Street NSW 2000 Sydney
Australia

Tel: (6102) 9251 1933 Fax: (6102) 9251 4333 E-mail: sydney@mida.gov.my

SHANGHAI PEOPLE'S REPUBLIC OF CHINA

Director

Consulate General of Malaysia (Investment Section)

Malaysian Investment Development Authority Unit 807-809, Level 8 Shanghai Kerry Centre

No.1515, Nanjing Road (West)

Shanghai 200040

People's Republic of China

Tel: (8621) 6289 4547 Fax: (8621) 6279 4009

E-mail: shanghai@mida.gov.my

GUANGZHOU PEOPLE'S REPUBLIC OF CHINA

Director

Malaysian Investment Development Authority Unit 1804B-05 CITIC, Plaza Office Tower 233 Tianhe Be Road, Guangzhou 510610

People's Republic of China Tel: (8620) 8752 0739 Fax: (8620) 8752 0753

E-mail: guangzhou@mida.gov.my

BEIJING PEOPLE'S REPUBLIC OF CHINA

Counselor (Investment)/Director
Embassy of Malaysia (Investment Section)
Malaysian Investment Development Authority
Unit C, 12th Floor, Tower A, Gateway Plaza
No. 18, Xiaguangli, East Third Ring North
Road, Chaoyang District,100600 Beijing
People's Republic of China

Tel: (8610) 8440 0071/ 0072 Fax: (8610) 8440 0076 Email: beijing@mida.gov.my

TOKYO Japan

Director

Malaysian Investment Development Authority 32F, Shiroyama Trust Tower

4-3-1, Toranomon, Minato-Ku

Tel: (813) 5777 8808 Fax: (813) 5777 8809 E-mail: tokyo@mida.gov.my

Tokyo 105-6032 Japan

OSAKA Japan

Director

Malaysian Investment Development Authority Mainichi Intecio 18-F, 3-4-5, Umeda, Kita-ku

Tel: (816) 6451 6661 Fax: (816) 6451 6626 E-mail: osaka@mida.gov.my

Osaka 530-0001 Japan

REPUBLIC OF KOREA

Counselor (Investment)/Director Embassy of Malaysia

(Malaysian Trade and Investment Centre) Level 17, Standard Chartered Bank Korea Limited Building 47, Jongro, Jongro-gu Seoul 110-702 Republic of Korea

Tel: (822) 733 6130 / 6131 Fax: (822) 733 6132 E-mail: seoul@mida.gov.my

TAIWAN

Director (Investment)

Malaysian Friendship & Trade Centre Malaysian Investment Development

Authority

12F, Suite A, Hung Kuo Building 167, Tun Hua North Road Taipei 105 Taiwan

Tel: (8862) 2713 5020 / 2718 6094

Fax: (8862) 2514 7581 E-mail: taipei@mida.gov.my

INDIA

Consul (Investment)/Director Consulate General of Malaysia

(Investment Section)

Malaysian Investment Development Authority

81 & 87, 8th Floor

3rd North Avenue Maker Maxity Bandra Kurla Complex, Bandra (E)

Mumbai 400051 India

Tel: (9122) 2659 1155 / 1156 Fax: (9122) 2659 1154

E-mail: mumbai@mida.gov.my

UNITED ARAB EMIRATES

Consul (Investment)/Director

Consulate General of Malaysia

(Investment Section)

Malaysian Investment Development Authority

Unit 2205, 22nd Floor, Tower A

Business Central Tower, Dubai Media City

(P.O. Box 502876) Dubai United Arab Emirates

Tel: (9714) 4343 696/4343 697

Fax: (9714) 4343 698 E-mail: dubai@mida.gov.mv

MIDA Overseas Offices Europe

FRANCE

Director

Malaysian Investment Development Authority 42. Avenue Kleber 75116. Paris France

Tel: (331) 4727 6696/ 3689 Fax: (331) 4755 6375 E-mail: paris@mida.gov.my

FRANKFURT GERMANY

Consul (Investment)/Director Consulate General of Malaysia (Investment Section)

Malaysian Investment Development Authority Level 9, HAT 64, Bleichstrasse 64-66, 60313

Frankfurt Am Main Germany
Tel: +49 (0)698700 679-0
Email: frankfurt@mida.gov.my

MUNICH GERMANY

Director

Malaysian Investment Development Authority Level 6. Bürkleinhaus Bürkleinstrasse 10

80538 Munich Germany Tel: (4989) 2030 0430 Fax: (4989) 2030 0431-5 E-mail: munich@mida.gov.my

ITALY

Consul (Investment)/Director Consulate of Malaysia (Investment Section) Malaysian Investment Development Authority 2nd Floor, via Albricci 9, 20122 Milan (MI) Italy

Tel: (3902) 3046 5218909 3824 Fax: (3902) 3046 52428909 545 418

E-mail: milan@mida.gov.my

SWEDEN

Economic Counsellor

Malaysian Investment Development Authority

c/o Embassy of Malaysia

Karlavaegen 37 P.O. Box 26053, S-10041 Stockholm Sweden

Tel: (468) 440 8400/ (468) 440 8416

Fax: (468) 791 8761

E-mail: stockholm@mida.gov.my

UNITED KINGDOM

Counsellor for Investment/Director High Commission of Malaysia

Malaysian Investment Development Authority

c/o Embassy of Malaysia

17, Curzon Street London W1J 5HR United Kingdom

Tel: (4420) 7493 0616 Fax: (4420) 7493 8804 E-mail: london@mida.gov.my

SAN JOSE

Director

Malaysian Investment Development Authority 226, Airport Parkway, Suite 480, San Jose, CA 95110

United States of America Tel: (1408) 392 0617/ 8 Fax: (1408) 392 0619

E-mail: sanjose@mida.gov.my

MIDA Oversea Offices North America

CHICAGO

Director

Malaysian Investment Development Authority

John Hancock Centre, Suite 1515

875, North Michigan Avenue, Chicago, IL 60611

United States of America Tel: (1312) 787 4532 Fax: (1312) 787 4769

E-mail: chicago@mida.gov.my

NEW YORK

Consul (Investment)/Director

Consulate General of Malaysia

(Investment Section)

Malaysian Investment Development Authority 313 East, 43rd Street New York, NY 10017

United States of America Tel: (1212) 687 2491

Fax: (1212) 490 8450

E-mail: newyork@mida.gov.my



For more information please contact:



MIDA Sentral

No.5, Jalan Stesen Sentral 5, Kuala Lumpur Sentral, 50470 Kuala Lumpur, Malaysia Tel: 603 2267 3633 I Fax: 603 2274 7970 I Web: www.mida.gov.my I E-mail: investmalaysia@mida.gov.my