FINANCING GREEN ECONOMY

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Malaysian Green Technology Corporation

LESTARI Executive Workshop Series II Knowledge Transfer For Implementing Green Economy in Malaysia and South East Asia

About Malaysian Green Technology Corporation

Vision

To be recognized globally as the focal point for green technology for Malaysia.

Mission

To facilitate the realization of the national
green technology agenda through value adding promotion, co-ordination and collaboration programmes.

Governed by the Board of Directors and the Ministry of Energy, Green Technology and Water, Malaysia

Established on 12 May 1998
as Malaysian Energy Centre (PTM) --- became Malaysian Green Technology Corporation on 7 April 2010

Our Activities

ENERGY AUDIT

GREEN TOWNSHIP

CLEAN DEVELOPMENT MECHANISM

GREEN TECHNOLOGY FINANCING SCHEME

COMPETENCY DEVELOPMENT CENTRE

IGEM

EV ROADMAP

GREEN TECHNOLOGY ROADMAP

CENTRE OF EXCELLENCE

GREEN LABEL

GREEN DIRECTORY

SMART PARTNERSHIPS

Our Services

CONSULTANCY AND ADVISORY

SECRETARIAT /COORDINATOR

TRAINING

RESEARCH AND STUDIES

ENERGY AUDITS

PROMOTION AND EVENT MANAGEMENT

CERTIFICATION

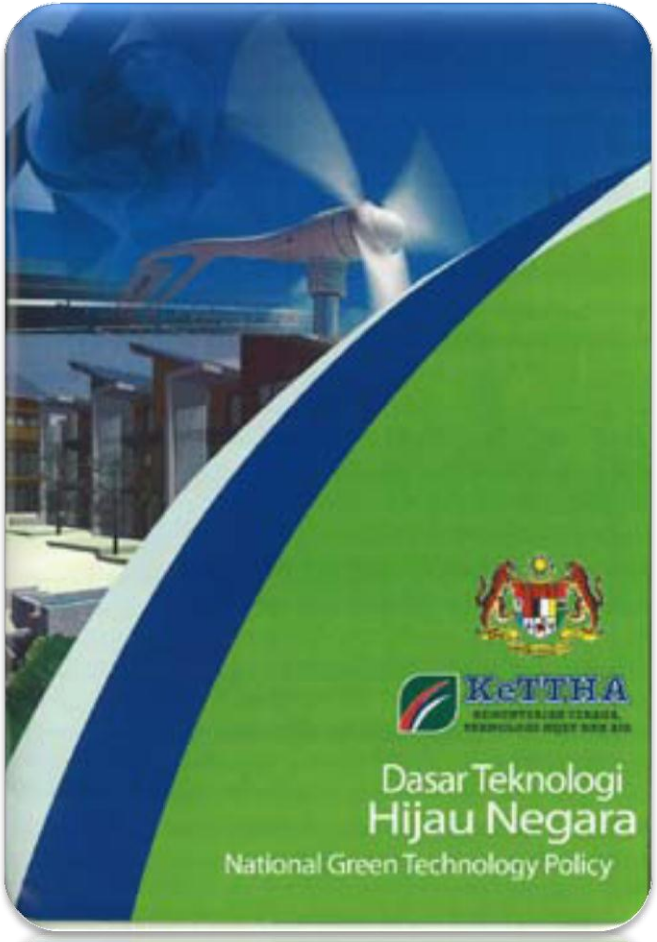
GREEN TECHNOLOGY

WHAT IS GREEN TECHNOLOGY?

The development and application of products, equipment and systems used to conserve the natural environment and resources, which minimizes and reduces the negative impact of human activities.

NATIONAL GREEN TECHNOLOGY POLICY

POLICY STATEMENT



GREEN TECHNOLOGY shall be a driver to accelerate the national economy and promote sustainable development.

THE **FOUR** PILLARS

ENERGY

- *Seek to attain energy independence & promote efficient utilization*

ENVIRONMENT

- Conserve and minimize the impact on the environment

ECONOMY

- *Enhance the national economic development through the use of technology*

SOCIAL

- *Improve the quality of life for all*

National Green Technology Policy

Objectives

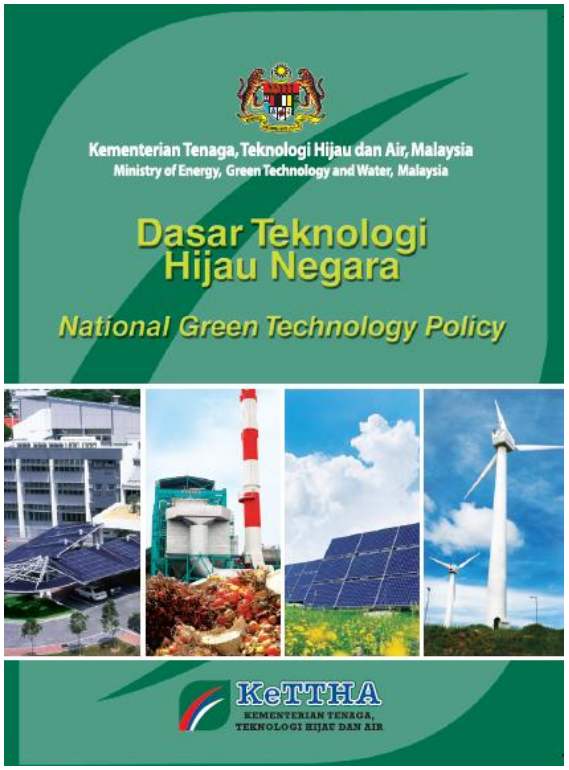
1. To reduce the energy usage rate while increasing economic growth.

2. To facilitate the growth of the Green Technology industry and enhance its contribution to the national economy.

3. To increase national capability and capacity for innovation in Green Technology development and enhance Malaysia's competitiveness in global arena.

4. To ensure sustainable development and conserve the environment for future generations.

5. To enhance public education and awareness on Green Technology and encourage its widespread use.



"I would like to announce here in Copenhagen that Malaysia is adopting an indicator of a voluntary reduction of up to ***40%*** *in terms of emissions intensity of GDP (gross domestic product) by the year 2020 compared to 2005 levels."*

YAB Dato' Sri Mohd Najib bin Tun Abdul Razak
Prime Minister of Malaysia
United Nations Climate Change Conference
December 2009

Sustainable Energy Development Authority seda MALAYSIA

Green Technology Financing Scheme

1hijau.tv

FEED-IN TARIFF

green building index

Green Directory.my
Sustainable products, for a better future.

GreenTAG

Green Technology Strategies

Strategic Thrusts

1. Strengthen the institutional framework
2. Provide conducive environment for GT development
3. Intensify human capital development in GT
4. Intensify GT research and innovations
5. Promotion and public awareness

RMK – 10

- Increased public awareness and commitment for the adoption and application of Green Technology through advocacy programmes
- Widespread availability and recognition of GT in terms of products, appliances, equipment and systems in the local market through standards rating and labeling
- Increased FDI & DDI in GT manufacturing & services sector
- Expansion of local research institutes and institutions and HLI to expand Research, Development , and Innovation activities in GT towards commercialization through appropriate mechanism

RMK - 11

- GT becomes the preferred choice in procurement of product & services
- GT has larger local market share against other technologies, and contributes to the adoption of GT in regional markets
- Increased production of local GT products
- Increased Research Development and Innovation of GT by local universities and research institutions and are commercialized in collaborations with the local industry and multi-nationals companies
- Expansion of local SMEs & SMIs on GT into the global markets
- Expansion of GT application

RMK - 12

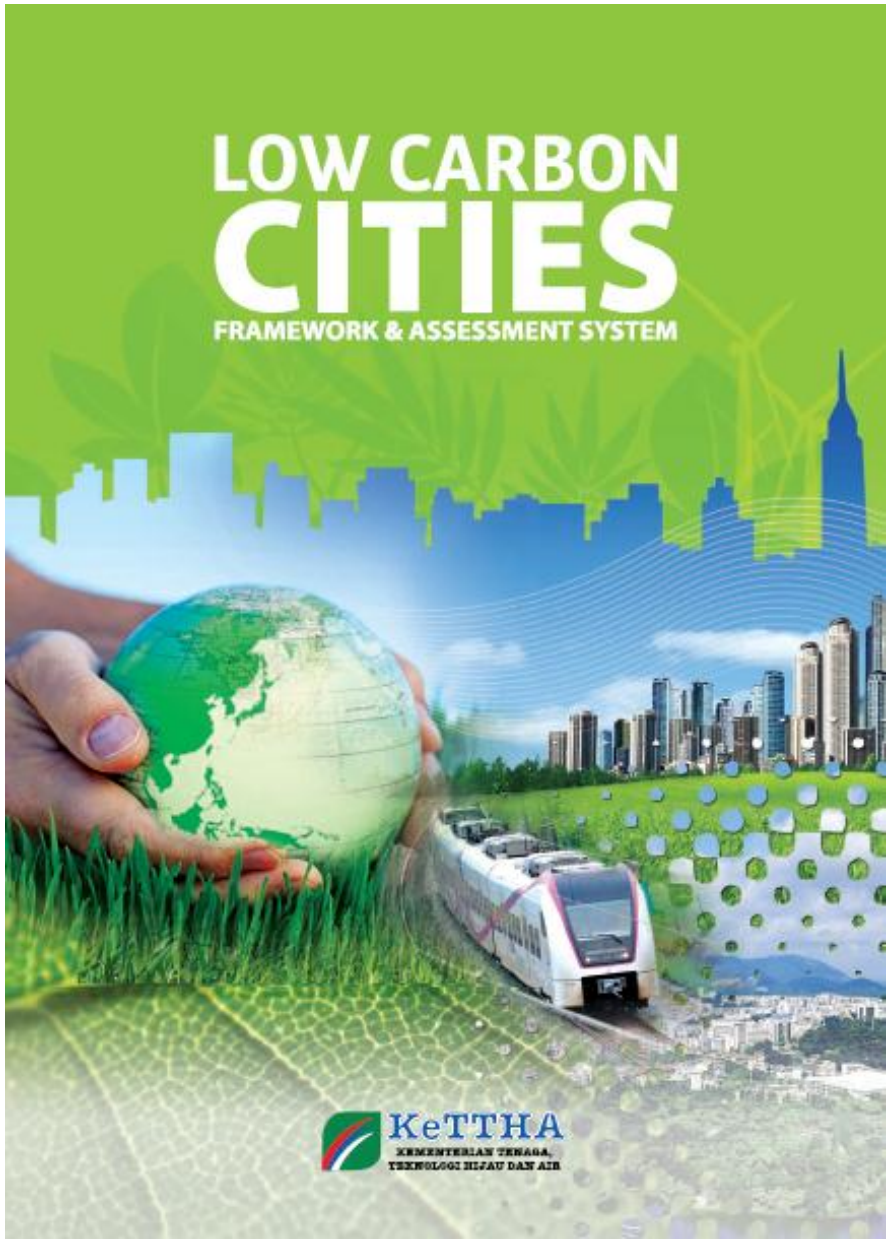
- Inculcation of GT in Malaysian culture
- Widespread adoption of GT reduces overall resource consumption while sustaining national economic growth
- Significant reduction in national energy consumption
- Improvement of Malaysia's ranking in environmental ratings
- Malaysia becomes major producer of GT in the global market
- Expansion of international collaborations between local universities and research institutions with GT industries

The document is to assist local authorities in assessing whether any development to be carried out within the city contributed towards abatement of GHG.

To encourage and promote the concept of green cities in Malaysia i.e. to reduce carbon emission in cities and townships

To increase the compatibility of cities / townships to their local natural system

To guide cities in making choice / decisions towards greener solutions




Urban Environment


Urban Transport


Urban Infrastructure


Building

Green Technology and Green Economy

- **Close the gap between ecological and economic efficiencies**
  - Creating more jobs and growth while reducing environmental impacts and improving resource efficiency

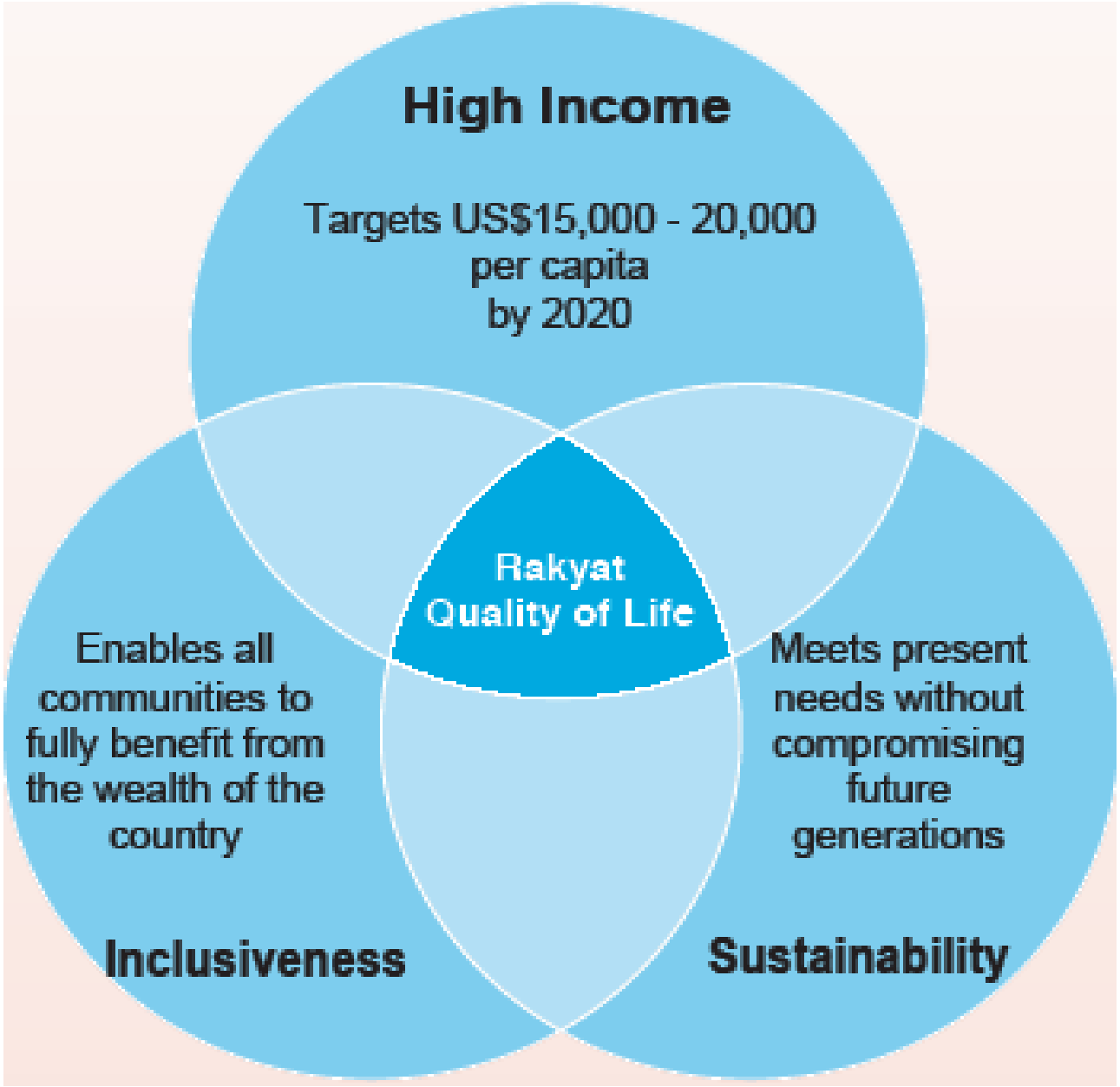
- **Green economy via green growth can turn crisis into opportunity (unique leapfrogging strategy).**
  - Green growth can improve energy, water and resources security and help achieve the Economic Development targets.

- **Requires a fundamental system change (higher growth and lower environmental impact)**
  - Restructuring both the visible (physical infrastructure) as well as the invisible structures of the economy (market prices, fiscal policies, institutions, governance and lifestyles

Green Economy in Other Countries

	Investment	Target / Results
1 Singapore 	• **USD500 million** for clean technology R&D • **200 scholarships** for doctorates in clean technology • Converting all roofs of government to be solar-power enabled • Developing a **125-acre clean-tech park** to create and commercialise products	**18,000 jobs** In clean tech sector by 2015 **USD2. 5 bill** Addition to GDP by 2015
2 South Korea 	• **USD38.5 billion** from 2009 to 2012 in 9 key environmental projects, e.g. solar & wind energy, hydrogen fuel cells and LED • **USD84 billion** spending by 2013 on energy efficiency • Provide subsidies for renewable energy industry and encourage private sector to invest	**950,00 0jobs** By 2030 **USD17 bill** Green energy industry by 2012
3 Denmark 	• 1979: **30% of initial cost of wind farms** underwritten • 2005: Utility companies required to achieve a certain level of energy savings every year by law • **Gradual increase in taxes** on consumption of oil, natural gas and electricity (43% more than US) • Subsidy programme for purchase of energy efficient appliances	**60,000 jobs** In environmental sector **USD10 bill** In exports in 2007 (9% of total)

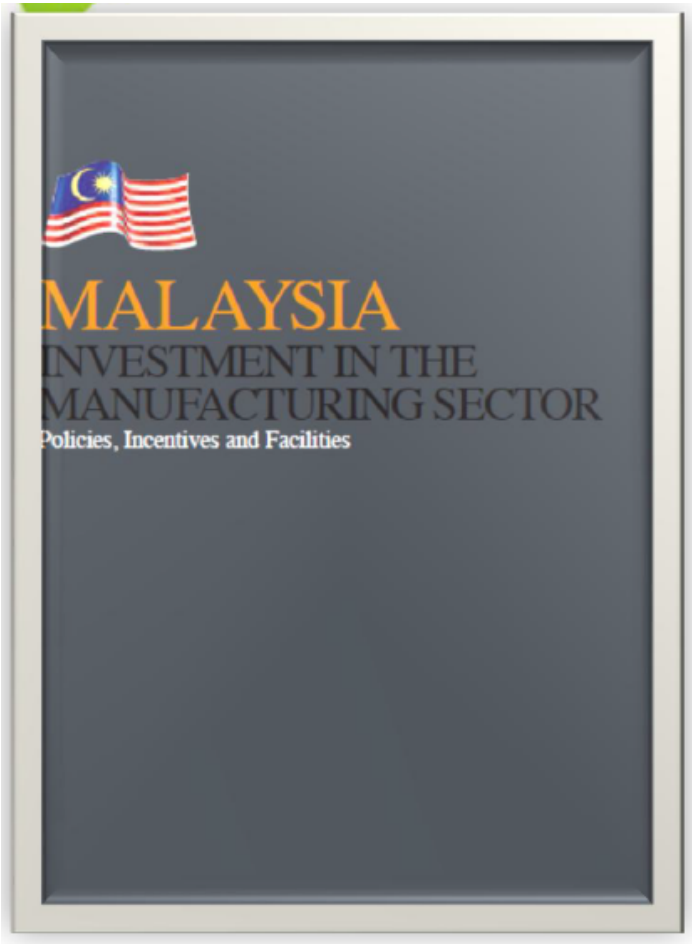
Green Economy and the New Economic Model



Incentives to Encourage Green Technology and Renewable Industries

- Green Technology Financing Scheme (GTFS)
- Green Building Index (GBI)
- Pioneer Status & Investment Tax Allowance for EE, RE, Waste Recycling Projects under MIDA
- FiT (Feed-in Tariff) under Renewable Energy Act

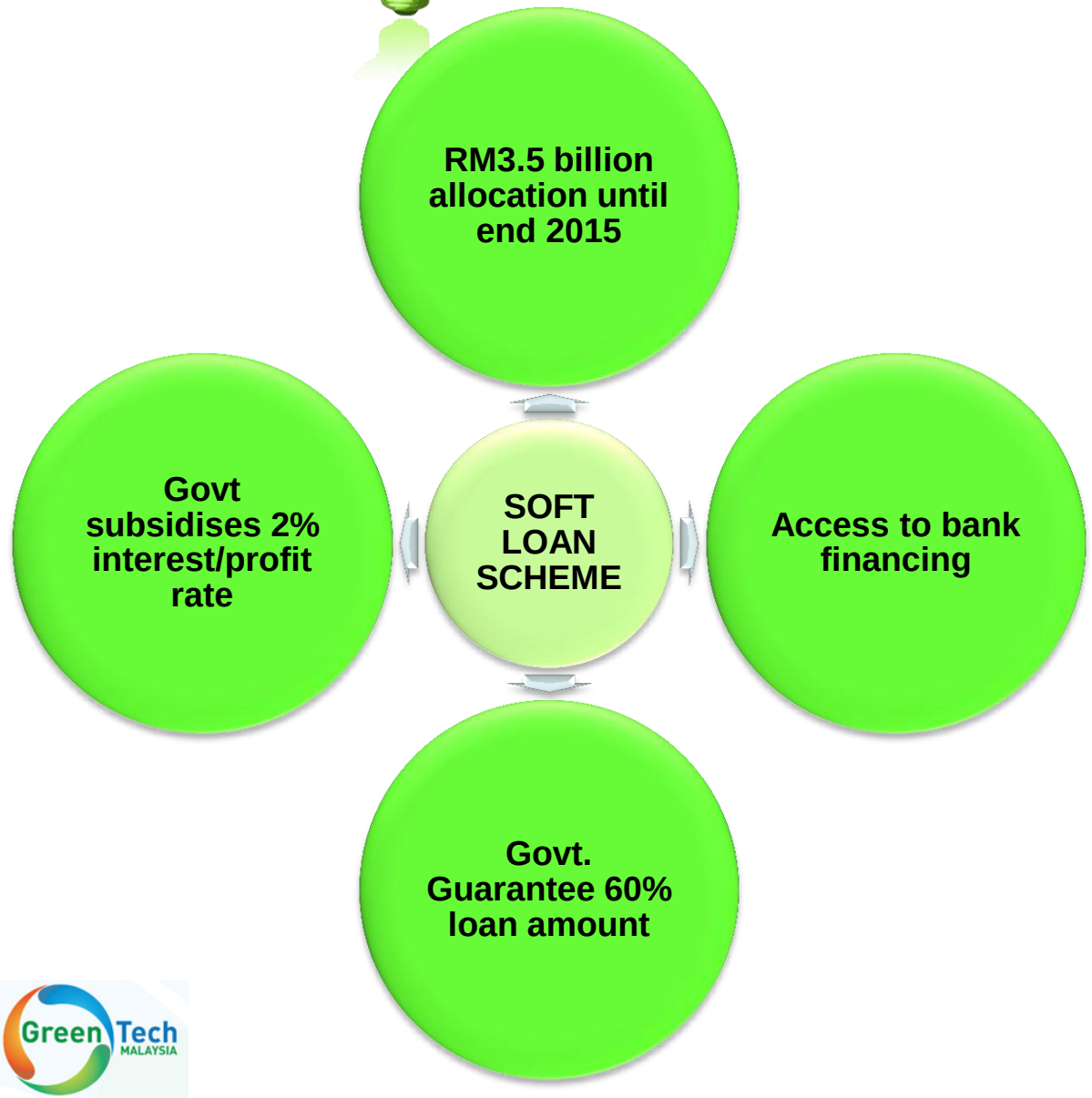
Incentives to Encourage Green Technology and Renewable Industries (MIDA)



- Incentives for Forest Plantation Projects
- Incentives for the Storage, Treatment and Disposal of Toxic and Hazardous Wastes
- Incentives for Waste Recycling Activities
- Incentives for Energy Conservation
  - Companies Providing Energy Conservation Service
  - Companies Undertaking Conservation of Energy for Own Consumption
- Incentives for Energy Generation Activities Using Renewable Energy Resources
- Incentives for Generation of Renewable Energy for Own Consumption
- Accelerated Capital Allowance for Environmental Management

GREEN TECHNOLOGY
FINANCING SCHEME
(GTFS)

WHAT IS GTFS?

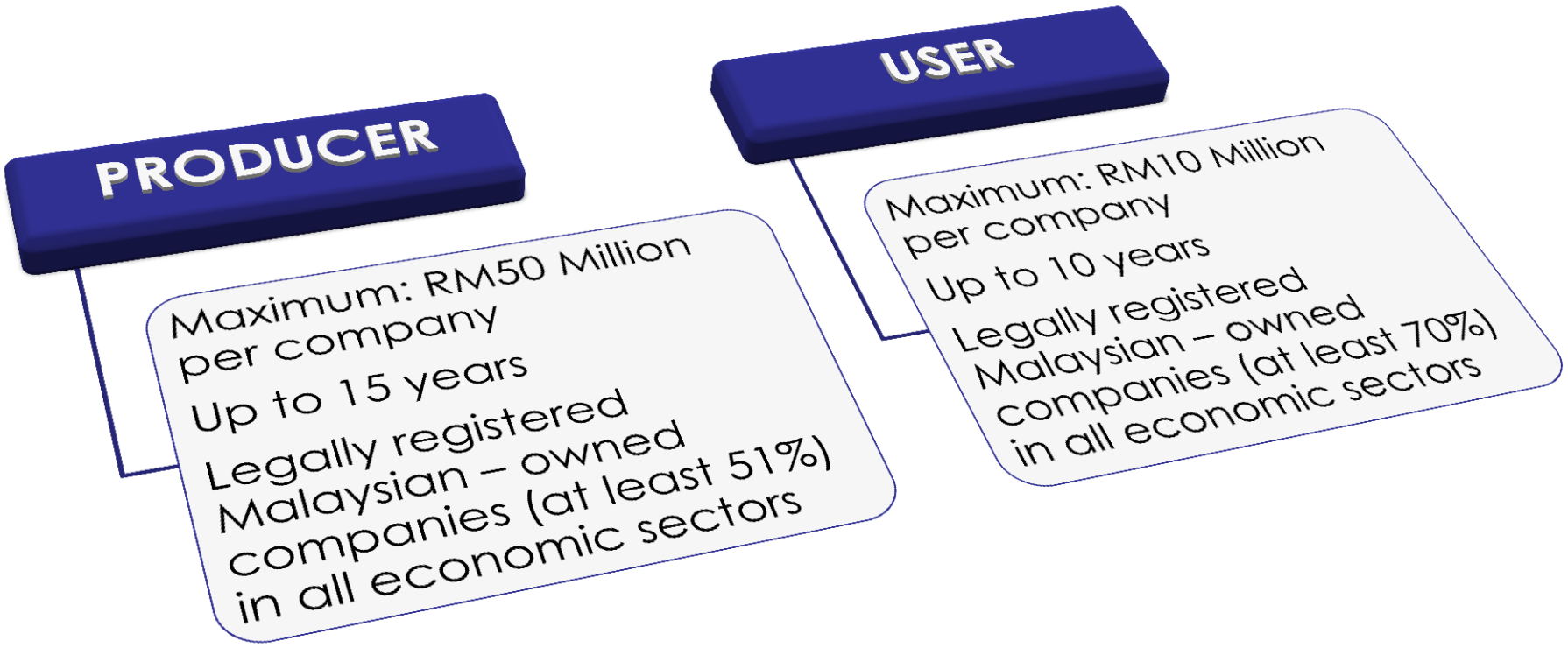


"Soft loan scheme initiated by the government to facilitate the improvement of supply and utilisation of green technology by providing easier access to financing"

GTFS Projects Criteria

- Minimize degradation of environment;
- Zero or low green house gas emission;
- Safe for use and promotes healthy and improved environment for inhabitants;
- Conserve the use of energy and natural resources; and
- Promote the use of Renewable energy resources.

GTFS Categories



GTFS Terms

- Financing will be provided by all commercial & Islamic banks, Development Finance Institutions (DFIs)
- 2% p.a. of government's subsidy
- 60% government guarantee of financing approved
- 0.5% p.a. guarantee fee to the government
- Projects are to be located in Malaysia
- Refinancing is not allowed.

GTFS Key Players

BANK NEGARA MALAYSIA

- COORDINATING THE SCHEME

GREENTECH MALAYSIA

- ISSUANCE OF PROJECT CERTIFICATE

CREDIT GUARANTEE CORPORATION

- PROVIDING GUARANTEE ON THE FINANCING AMOUNT

PARTICIPATING FINANCIAL INSTITUTIONS

- FINANCING PROVIDER

GTFS Potential Applicants

ENERGY SECTOR

- ENERGY SUPPLY SECTOR
- ENERGY UTILIZATION SECTOR

BULDING

- CONSTRUCTION, MANAGEMENT, MAINTENANCE AND DEMOLITION

WATER & WASTE MANAGEMENT SECTOR

- MANAGEMENT AND UTILIZATION OF WATER RESOURCES
- WASTE WATER TREATMENT, SOLID WASTE AND SANITARY LANDFILL

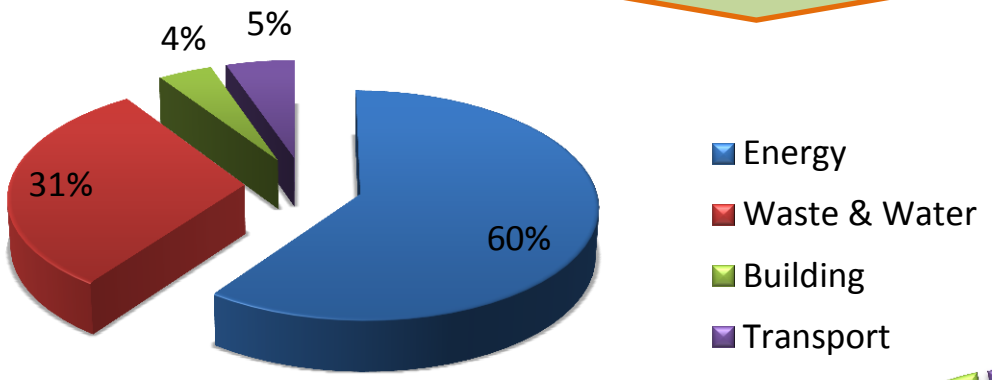
TRANSPORTATION

- TRANSPORTATION INFRASTRUCTURE AND VEHICLE
- PUBLIC ROAD TRANSPORT

GTFS STATUS

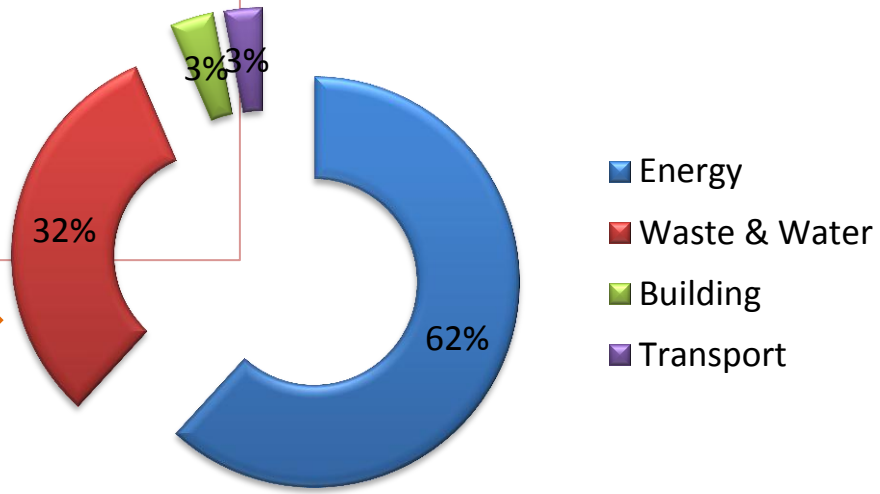
GTFS Status (as of Feb 2013)

265 APPLICATION PROCESSED AMOUNTING TO RM5.1BILLION IN GREEN COSTS



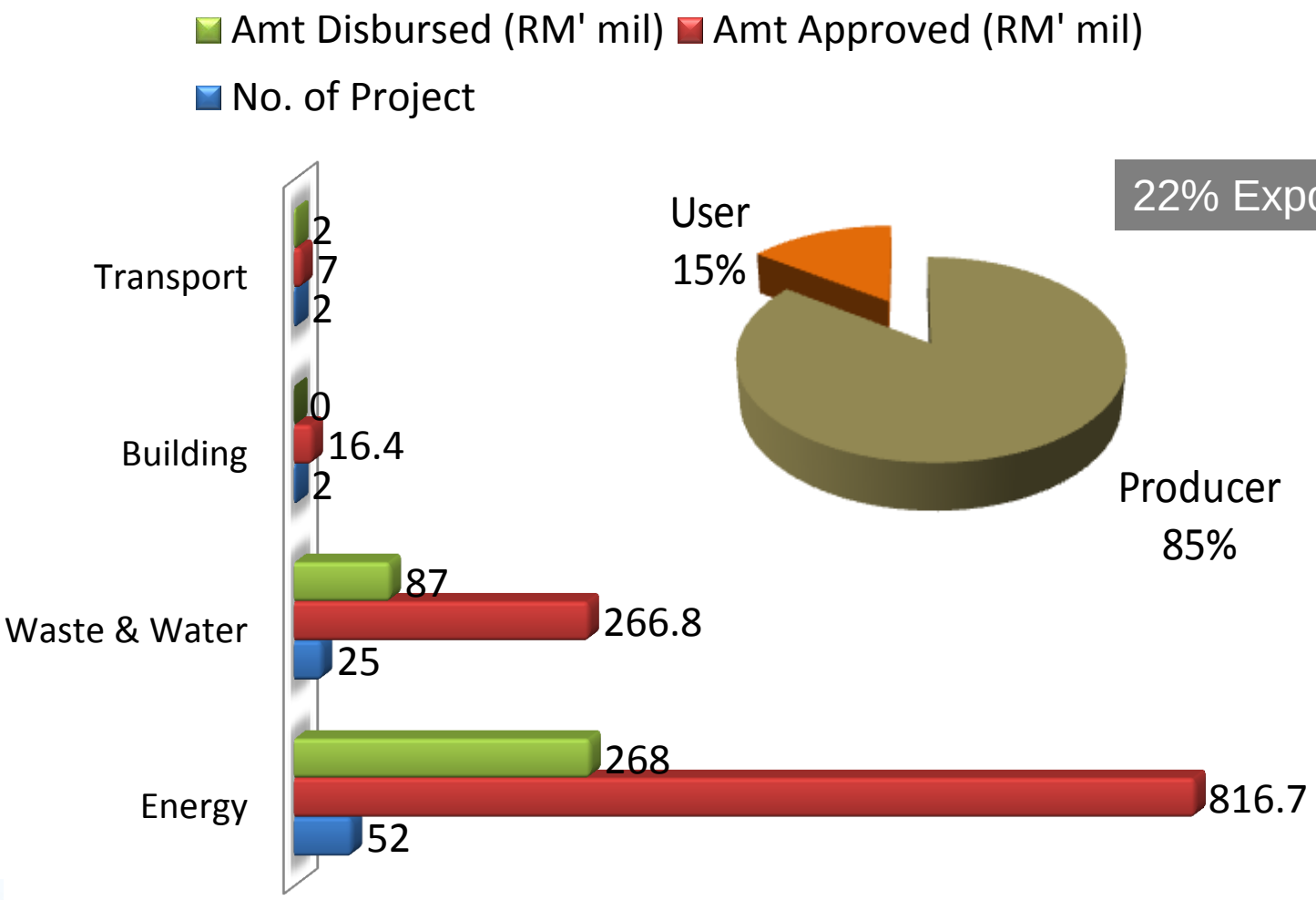
22% Exporters

233 PROJECTS CERTIFIED AMOUNTING TO RM4.3BILLION IN GREEN COSTS



GTFS Status (as of Feb 2013)

81 PROJECTS SECURED FINANCING AMOUNTING TO RM1.1 BILLION AND RM357 MILLION DISBURSED



21 PARTICIPATING FINANCIAL INSTITUTIONS

GTFS Business Review

i. Business model viability study (applicable to both end-user and producer)

ii. Market viability study (applicable to both end-user and producer)

iii. Financial viability study (applicable to both end-user and producer)

iv. Management viability report (applicable to both end-user and producer)

v. Exit strategy viability study (applicable to producer and end-user, but for ESCO category)

GTFS Project Certification Process

APPLICATION (PROJECT PROPOSAL)

- Online: www.gtfs.my

Technical Evaluation & Business Review Presentation by GreenTech Malaysia

TECHNICAL PROJECT APPROVAL BY GTFS COMMITTEE (GC)

GREENTECH MALAYSIA WILL ISSUE GREEN PROJECT CERTIFICATE

Green Project Certificate

Sijil Projek Hijau

It is hereby certifies that
Ini disahkan bahawa

GREEN TECHNOLOGY SDN BHD
NO.3 JALAN 13/1
TAMAN JAYA 13
[illegible] KUALA LUMPUR

fulfill the Green Technology Financing Scheme Eligibility Criteria
telah memenuhi kriteria Skim Pembiyaan Teknologi Hijau

Project Name	:	Cadangan Pemasangan Sistem Tenaga Boleh Diperbaharui Di Atas Tapak Pelupusan Kuala Sawah, Negeri Sembilan
Project Serial No.	:	GTFS/E/P147
Category	:	Producer
Sector	:	Energy
GT Project Cost	:	RM 50,000,000.00

DATUK LOO TOOK GEE
Secretary General
Ministry of Energy, Green Technology and Water

Issue Date / Tarikh Dikeluarkan	:	4 June 2012
Valid Until / Sah Sehingga	:	3 December 2012
Certificate No.	:	GTFS/E/C0121

Intended for loan financing under Green Technology Financing Scheme only
Bertujuan untuk pembiyaan pinjaman di bawah Skim Pembiyaan Teknologi Hijau sahaja

GTFS Monitoring

SUBMISSION OF MONTHLY PROGRESS REPORT TO GREENTECH MALAYSIA

FINANCING APPLICATION TO FINANCIAL INSTITUTIONS

FINANCIAL INSTITUTION SUBMISSION TO CGC FOR GUARANTEE

FINANCING DOCUMENTATION AND DISBURSEMENT

PROJECT COMMENCEMENT AND COMMISIONING

TECHNICAL AUDIT BY GREENTECH MALAYSIA

GTFS Impact Tracking

PROJECT MONITORING & VERIFICATION

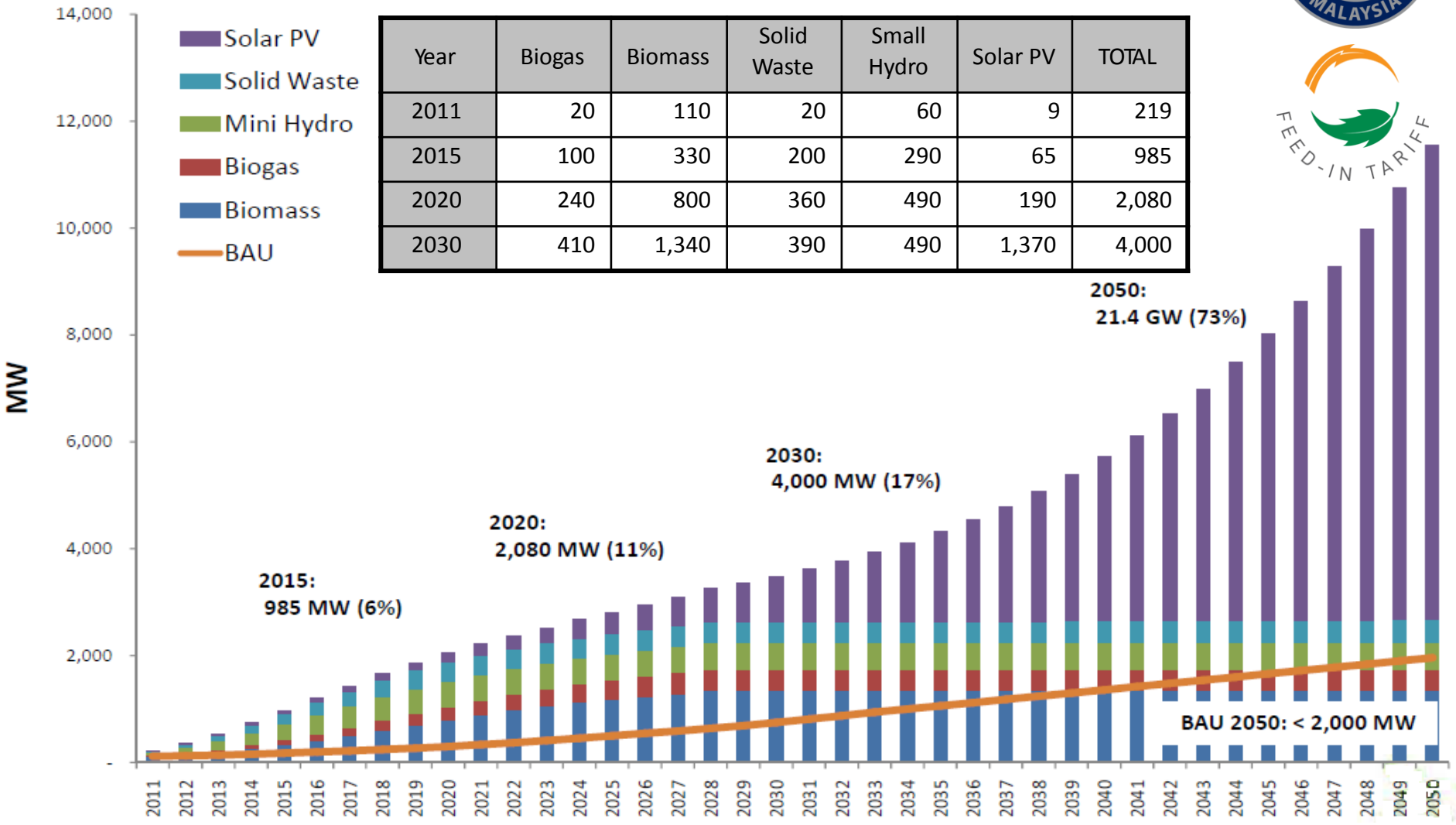
- Submission of monthly Project Progress Report to GreenTech Malaysia during project implementation
- Submission of Project Outcome Report every six months to GreenTech Malaysia upon commissioning

PROJECT IMPACT

- Submission of Project Impact Study upon completion of Project Monitoring and Verification

The Feed-in Tariff

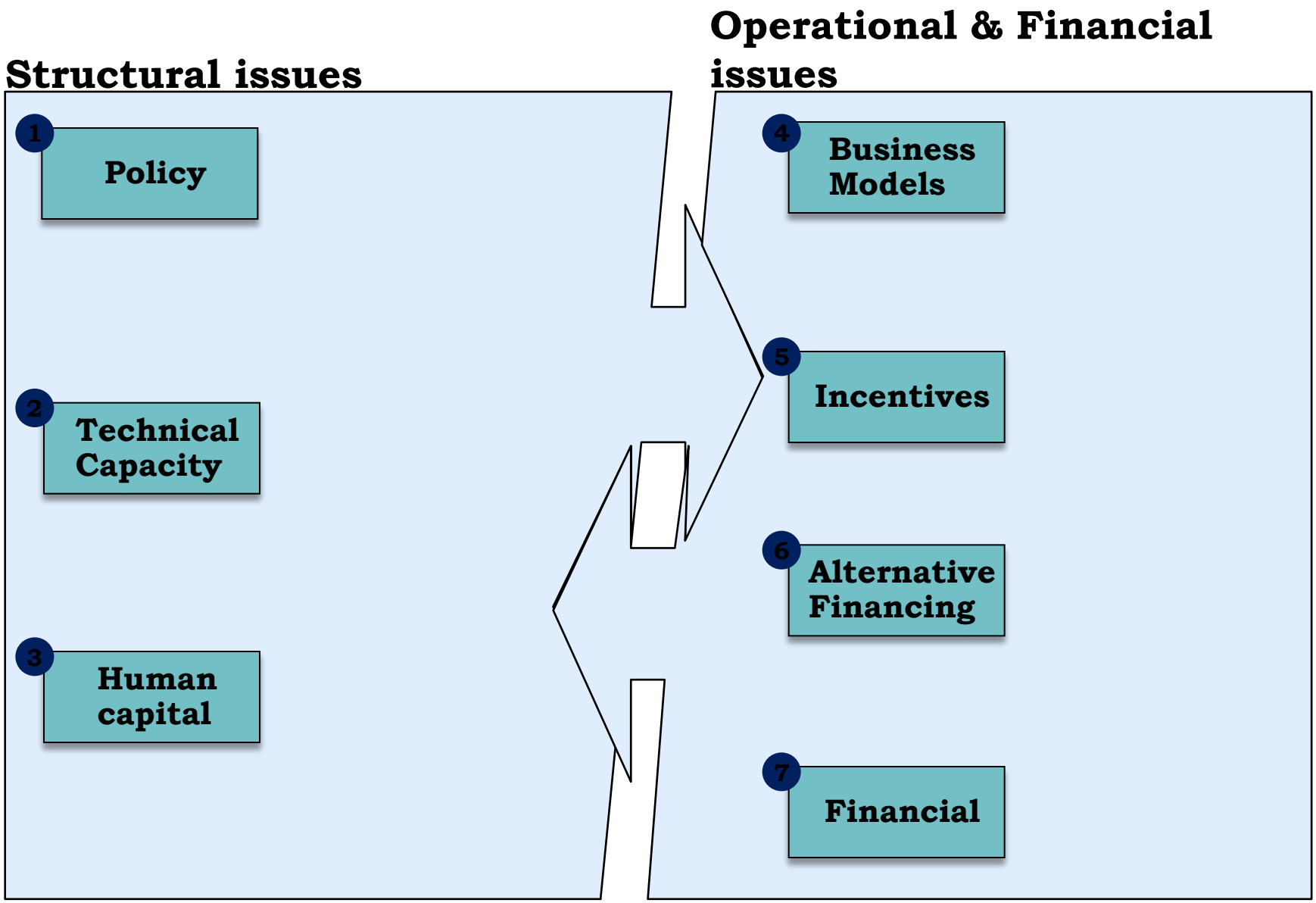
Year	Biogas	Biomass	Solid Waste	Small Hydro	Solar PV	TOTAL
2011	20	110	20	60	9	219
2015	100	330	200	290	65	985
2020	240	800	360	490	190	2,080
2030	410	1,340	390	490	1,370	4,000



OPPORTUNITIES FOR IMPROVEMENT

Lack of policies, legislations and end user incentives	• Policies for certain segments are still unclear • Lack of legislation to follow up the policies, creating uncertainties in supply and demand assumptions (especially for the domestic market) • Lack of end user incentives to spur local demand
Financial institutions are risk averse	• 60% Government guarantee via Credit Guarantee Corporation under the Scheme is viewed as unattractive • Most project proposer have no track record and unproven technology
Lack of knowledge and familiarity on green technology	• Financial institutions adopt the same credit evaluation criteria in evaluating green technology applications as traditional sectors
Lack of equity capital by project developers	• Project owners are unable to cover the financing for the differential in the margin of finance and cost overruns
'Unconvincing' proposal by project developers	• Compounded by the lack of knowledge, this leads to difficulties for credit writers to defend proposals to credit evaluation committees • Proposals are often rejected at the beginning of the evaluation funnel due to the lack of customary justifications

OPPORTUNITIES FOR IMPROVEMENT



OPPORTUNITIES FOR IMPROVEMENT

Key success factors to meet market demands…

Sustainable business models

- Buyers prefer consistent supply and quality
- Buyers prefer yearly supply contracts

Certification

Human capital development

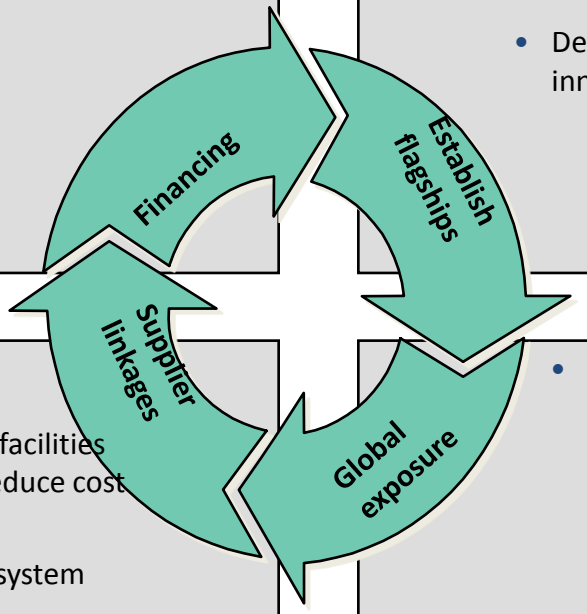
- Enhance skills to transform the knowledge workers

Route to market networks

- Market driven outputs drive efficiency and capture highest value

… will require an integrated approach across the entire value chain to create sustainable efficiencies

- Financing options and financier availability made easier
- Development of innovative products
- Players and facilities nearby to reduce cost
- Enable eco-system
- Future supplier of advanced materials



The Way Forward

- Increased research, development and innovation by local universities/research institutions, commercialized in collaboration with the local industry / multinational companies
- Expansion of local SMEs / SMIs in Green Technology and Renewable Industry into the global market
- Widespread adoption of Green Technology and Renewable Industry to reduce the overall consumption of resources while sustaining national economic growth
- Significant reduction in national energy consumption
- Inculcation of Green Technology in Malaysian culture
- Publicity, educational and awareness on Green Technology
- Increase in financial and fiscal incentives on Green Technology and Renewable Industry
- Establishment of legislation and legal mechanism on Green Technology and Renewable Industry

APPLY NOW
AND START
GROWING
YOUR **GREEN**
BUSINESS!

VISIT **www.gtfs.my** NOW!

Thank You

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azrin@greentechmalaysia.my


how
who
which
what
why
when
where

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