



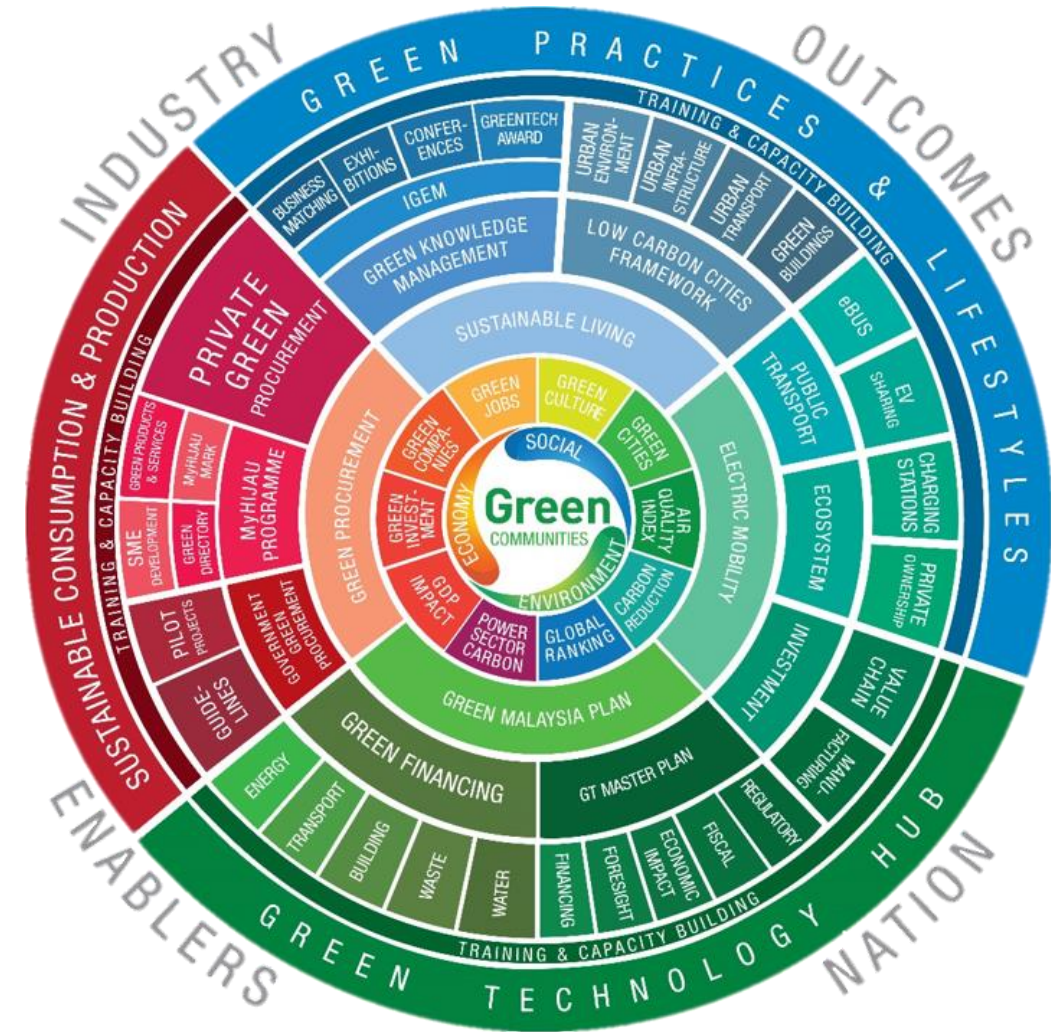
DERISKING  
GREEN  
INVESTMENTS –  
MALAYSIA  
PERSPECTIVE

OECD-ADBI  
Roundtable on  
Capital Market and  
Financial Reform in  
Asia  
2-3 March 2017

SESSION 4: Financing  
of Green  
Infrastructure  
Investment  
3 March 2017

# OUTLINE

- ISSUES AND CHALLENGES TO ACCELERATE GREEN INVESTMENTS
- ENABLING FRAMEWORK
- DERISKING GREEN INVESTMENT
- GREEN TECHNOLOGY FINANCING SCHEME
- CONCLUDING REMARKS



# ISSUES & CHALLENGES TO ACCELERATE GREEN INVESTMENTS



- Public funding resources are limited to cater for the immense green infrastructure investment
- Green technologies often have higher initial capital costs.



- Novel technologies and business models lack pertinent information and face information asymmetries
- Certain green technologies have real or perceived higher risks.



- Knowledge gap in evaluating green technologies and involved high cost of due diligence checks.
- Limited track record of consistent returns.

# ENABLING FRAMEWORK

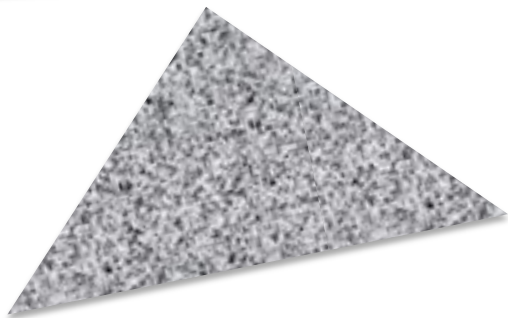
Environment  
& Social



Project Economics



Minimise  
Impact



Lo Cost  
Hi Returns

A coherent and long-lasting  
balance between environment,  
social and economics.



A strong and transparent regulatory  
framework that facilitates both  
private and public investment.

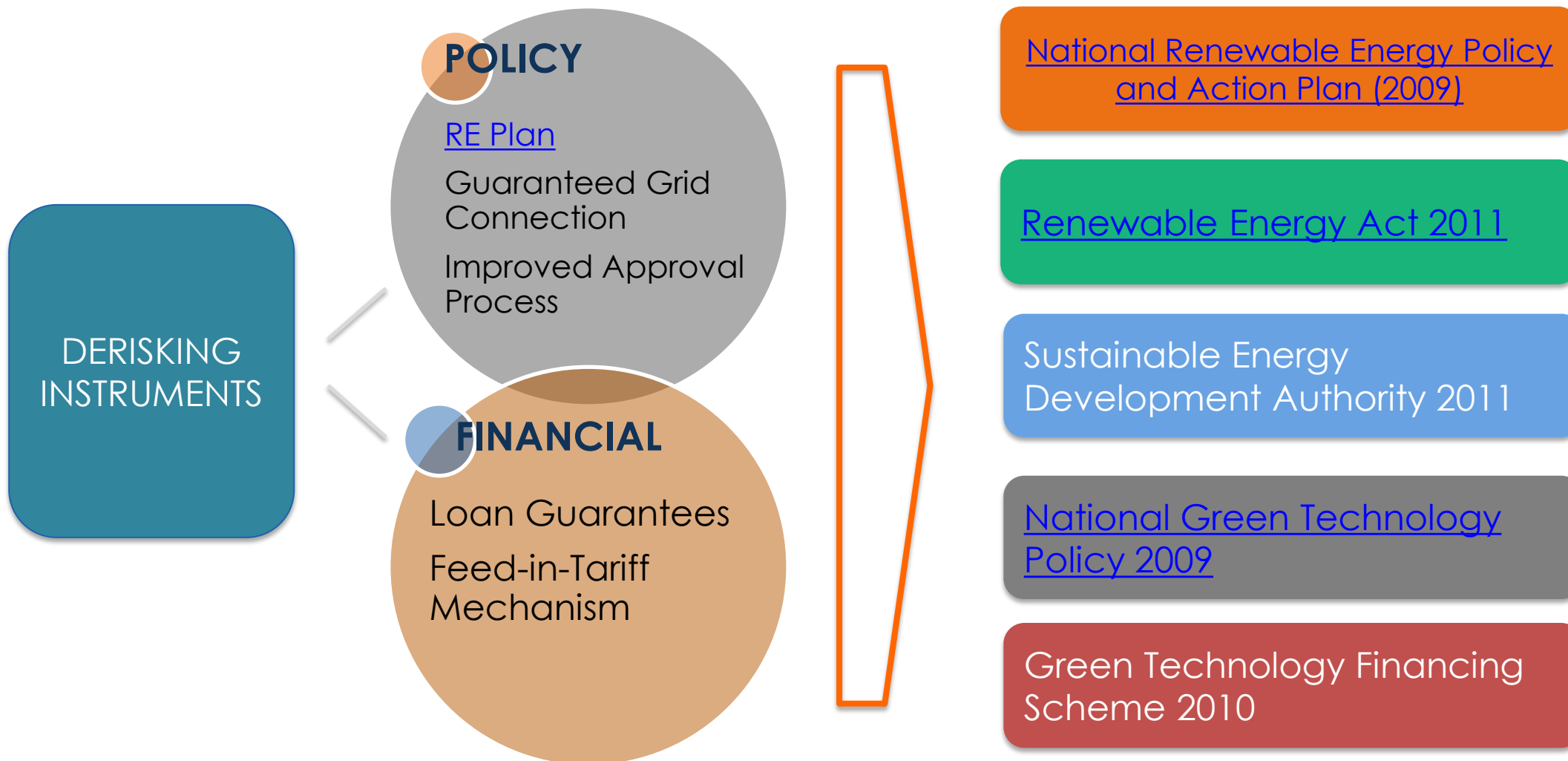


Public mechanisms that can  
leverage private investment flow.



Public instruments that can reduce  
financing cost

# DERISKING GREEN INVESTMENTS



# GREEN TECHNOLOGY FINANCING SCHEME (GTFS)



- Financing will be provided by all commercial & Islamic banks and Development Financial Institutions (DFIs)
- Projects are to be located in Malaysia
- Refinancing is not allowed.



# GREEN TECHNOLOGY FINANCING SCHEME 2010-2016

TARGET LOAN APPROVALS 2017:  
RM3.5b (USD788m)

RM164.3m  
(USD37m)

RM2.96b (USD666m)

272 PROJECTS



**GREEN  
TECHNOLOGY  
FINANCING  
SCHEME**

Empowering Green Businesses

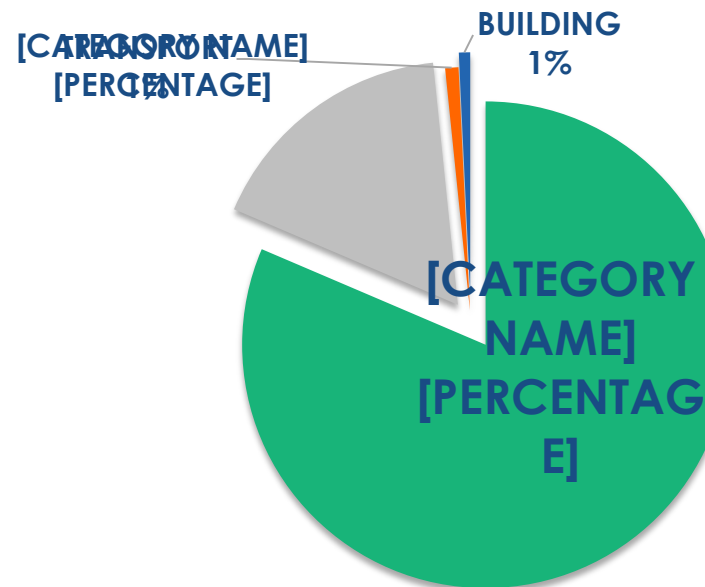


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2010

2016

## FINANCING APPROVALS BY SECTOR (RM)



**ENERGY**  
RM2.33b  
(USD524m)



**WATER &  
WASTE**  
RM485m  
(USD109m)



**TRANSPORT**  
RM25.2m  
(USD5.7m)

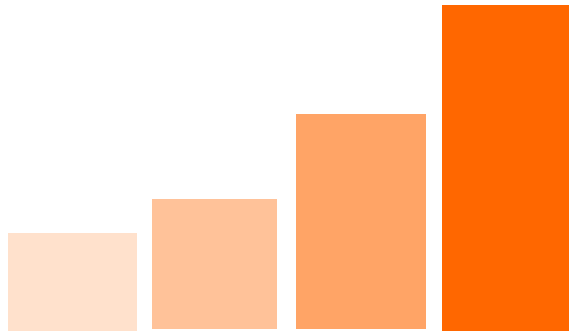


**BUILDING**  
RM21.4m  
(USD4.8m)

28 Participating Banks and Financial Institutions

# EXPECTED IMPACT

272 PROJECTS




**GREEN INVESTMENTS:**  
RM5.5b (USD1.36b)  
1 : 3.3

**GREEN  
JOBS**



**SOCIAL:**  
4,645 JOBS CREATED

  
**CO<sub>2</sub>**



**ENVIRONMENT:**  
Emission reduction  
3.16mtCO<sub>2</sub>eq/yr



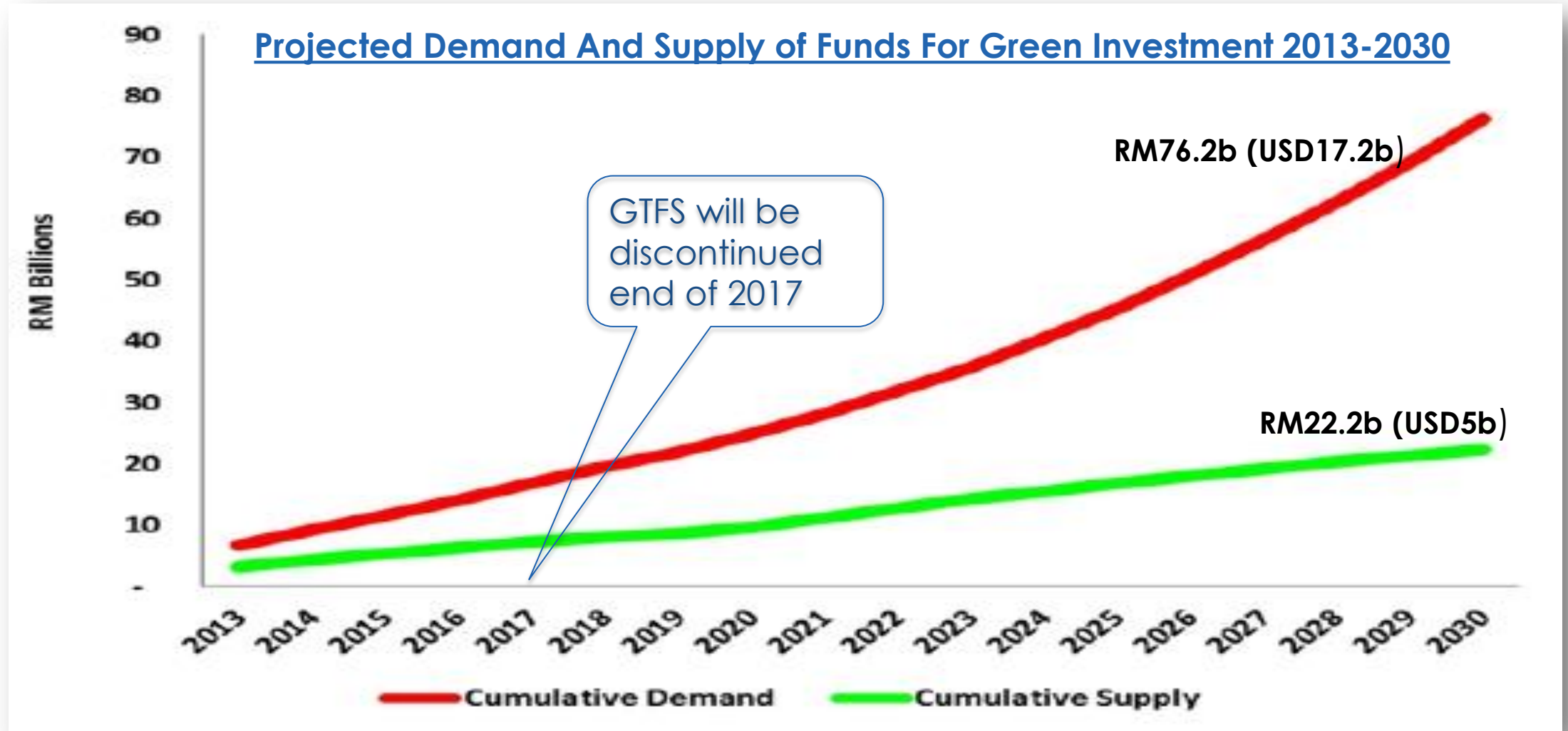
# DEMAND FOR GREEN FUNDS



Source: Protégé Associates

**CAGR of 15.4%**

# BUSINESS AS USUAL



# CONCLUDING REMARKS

## POLICY AND FINANCIAL DE-RISKING MEASURES

helps to unlock and enhance financing and investments in green infrastructure projects.

lower financing costs while also providing credit enhancement for banks and financial institutions to participate.

The Green Technology Financing Scheme (GTFS) remained as one of the qualified, modestly successful model for green investment.

- It helped catalysed and enlarge supply of financing by financial institutions due to the lowering of the underlying risk.

- On the demand side, it generates greater interest in green investment driven by the lower financing cost.



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# NATIONAL GREEN TECHNOLOGY POLICY 2009

## FOUR PILLARS OF GREEN TECHNOLOGY POLICY

### POLICY STATEMENT

**GREEN TECHNOLOGY  
SHALL BE A DRIVER TO  
ACCELERATE THE  
NATIONAL ECONOMY  
AND PROMOTE  
SUSTAINABLE  
DEVELOPMENT.**

### ENERGY

Seek to attain  
energy  
independence &  
promote efficient  
utilisation



### ENVIRONMENT

Conserve and  
minimise impact  
on the  
environment



### ECONOMY

Enhance the  
national economic  
development  
through the use of  
technology



### SOCIAL

Improve the  
quality of life for  
all



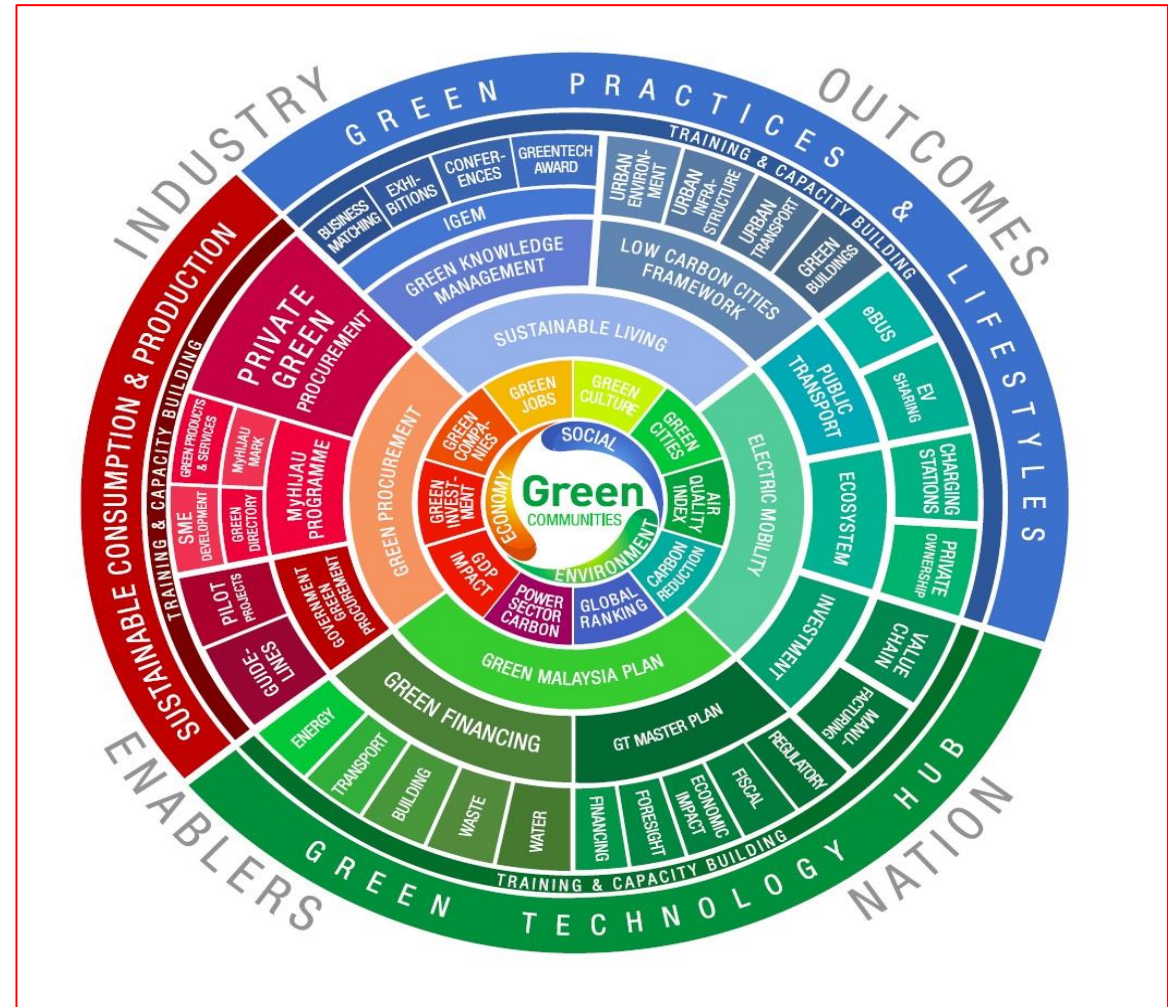


# MALAYSIAN GREEN TECHNOLOGY CORPORATION (GREENTECH MALAYSIA)



## MALAYSIAN GREEN TECHNOLOGY CORPORATION (GREENTECH MALAYSIA)

A corporation under the purview of the Ministry of Energy, Green Technology & Water Malaysia act as the nation's lead agency in catalysing green technology as a strategic engine for socio-economic growth.





# MALAYSIAN GREEN TECHNOLOGY CORPORATION (GREENTECH MALAYSIA)

**PURPOSE:** To catalyse green technology deployment as a strategic engine for Malaysia's socio-economic growth

**GOAL:** Establish Malaysia as a world hub for Green Technologies

## FOCUS AREA 1

Market  
Enhancement &  
Infrastructure  
Development  
Programmes

## FOCUS AREA 2

Industry  
Development &  
Technology  
Transfer  
Programmes

## FOCUS AREA 3

Competency &  
Capacity  
Development  
Programmes

## FOCUS AREA 4

Policies &  
Financing  
Mechanism  
Programmes

## FOCUS AREA 5

Awareness  
&  
Promotion  
Programmes

## IMPACT OF GREEN TECHNOLOGY ADOPTIONS AND DEPLOYMENT

ENVIRONMENT: reduction of carbon emissions;

ECONOMY: increase in GNI/GDP and investments;

SOCIAL: increase in high-income jobs and knowledge workers;

ENERGY: reduction in fossil-fuelled power and increase in renewables.

# NATIONAL RE POLICY AND ACTION PLAN 2009

## The Policy Vision

Enhancing the utilisation of indigenous renewable energy (RE) resources to contribute towards national electricity supply security and sustainable socioeconomic development.



## Objectives

- To increase RE contribution in the national power generation mix;
- To facilitate the growth of the RE industry;
- To ensure reasonable RE generation costs;
- To conserve the environment for future generations; and
- To enhance awareness on the role and importance of RE.

# OTHER POLICY AND LEGAL FRAMEWORK

## Renewable Energy Act 2011

An Act to provide for the establishment and implementation of the Feed-in Tariff mechanism to catalyse the generation of renewable energy and to provide for related matters.

## Sustainable Energy Development Act 2011

An Act to provide for the establishment of the **Sustainable Energy Development Authority Malaysia** and to provide for its functions and powers and for related matters.



To promote, stimulate, facilitate and develop sustainable energy as well as implement, manage, monitor and review the feed-in tariff system.

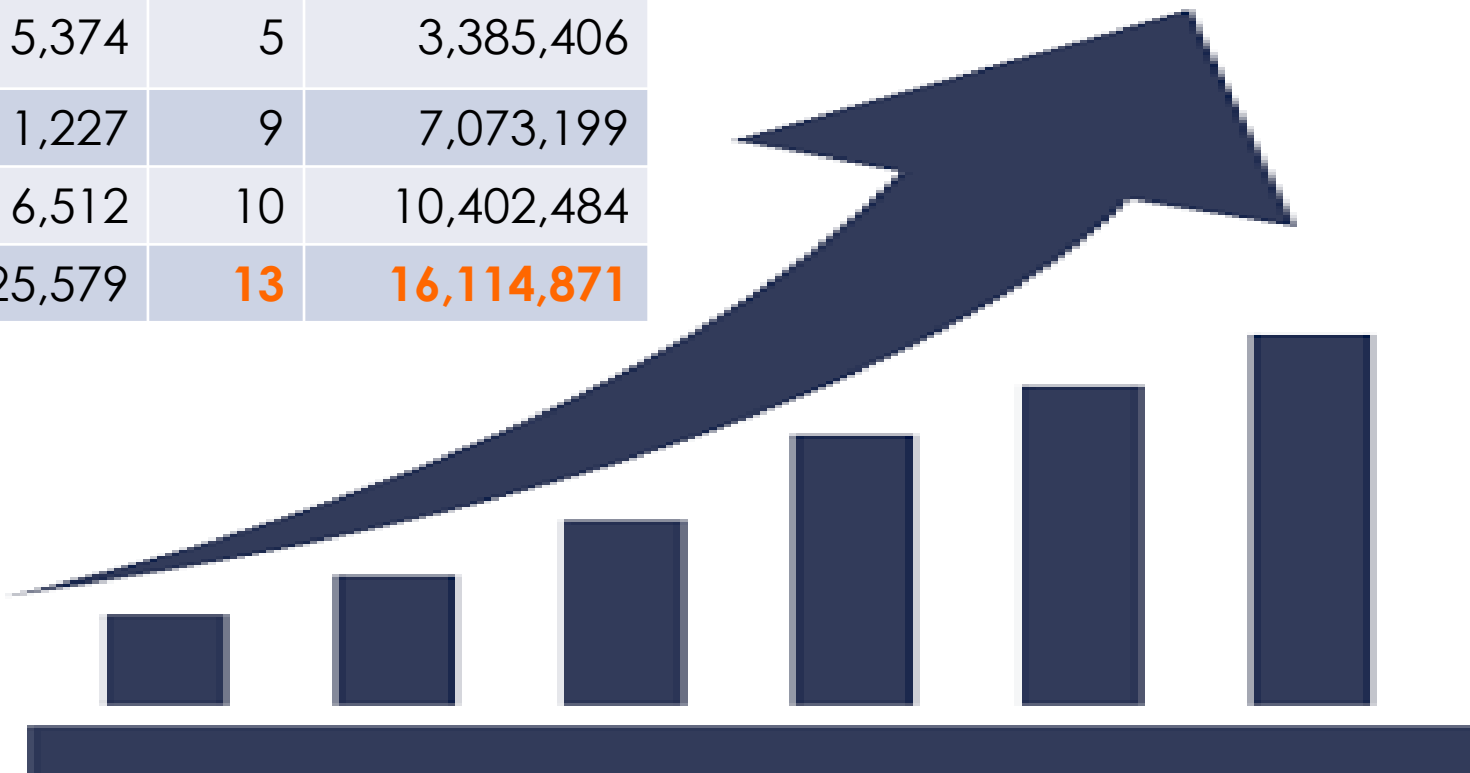
# RE POLICY PLANNED OUTCOME

YEAR ENDING	CUM. TOTAL RE (MW)	SHARE OF RE CAPACITY (%)	ANNUAL RE GENERATION (GWh)	RE MIX (%)	ANNUAL CO2 AVOIDANCE (TONNES)
2011	217	1	1,228	1	773,325
2015	975	6	5,374	5	3,385,406
2020	2,065	10	11,227	9	7,073,199
2030	3,484	13	16,512	10	10,402,484
2050	<b>11,544</b>	34	25,579	<b>13</b>	<b>16,114,871</b>

**2050: 11,544MW**

Source: SEDA

**217MW**



# INSTALLED CAPACITY (MW)-PLANTS in PROGRESS

Year	Biogas	Biogas (Landfill / Agri Waste)	Biomass	Biomass (Solid Waste)	Small Hydro	Solar PV	Geothermal	Total
2012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02
2014	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.58
2015	0.00	0.00	0.00	0.00	13.94	5.01	0.00	18.95
2016	0.00	16.80	24.45	0.00	0.00	52.04	0.00	93.29
2017	0.00	53.98	23.94	21.00	39.75	40.75	0.00	179.42
2018	0.00	31.28	35.00	2.50	78.15	0.00	0.00	146.93
2019	0.00	5.51	10.00	4.00	86.12	0.00	0.00	105.63
<b>Cumulative</b>	0.00	107.57	93.39	27.50	217.96	98.41	0.00	<b>544.84</b>

Source: SEDA

# INSTALLED CAPACITY (MW) - COMMISSIONED RE INSTALLATIONS

Year	Biogas	Biogas (Landfill / Agri Waste)	Biomass	Biomass (Solid Waste)	Small Hydro	Solar PV	Geothermal	Total
2012	2.00	3.16	36.90	8.90	11.70	31.55	0.00	94.21
2013	3.38	3.20	0.00	0.00	0.00	106.93	0.00	113.51
2014	1.10	0.00	12.50	0.00	0.00	64.88	0.00	78.48
2015	0.00	7.40	12.00	7.00	6.60	60.12	0.00	93.12
2016	0.00	13.86	19.50	0.00	12.00	30.66	0.00	76.02
2017	0.00	2.40	0.00	0.00	0.00	0.00	0.00	2.40
<b>Cumulative</b>	6.48	30.02	80.90	15.90	30.30	294.14	0.00	<b>457.74</b>

Source: SEDA



# ANNUAL POWER GENERATION (MWh)- COMMISSIONED RE INSTALLATIONS

Year	Biogas	Biogas (Landfill / Agri Waste)	Biomass	Biomass (Solid Waste)	Small Hydro	Solar PV	Geothermal	CO2 Avoidance (tonne)
2017	0.00	93,335.18	653,401.39	0.00	174,250.01	474,477.94	0.00	1,395,464.52
2016	39,160.23	90,910.83	620,580.59	40,862.44	172,613.47	464,632.07	0.00	1,428,759.63
2015	33,612.63	64,895.43	529,460.37	25,403.50	150,912.73	334,835.62	0.00	1,139,120.28
2014	22,140.38	365,20.99	393,387.12	12,921.35	112,682.33	161,589.08	0.00	739,241.25
2013	8,497.53	14,548.33	237,311.61	9,921.35	68,143.07	38,541.65	0.00	376,963.54
2012	67.70	8,008.79	92,820.38	2,231.82	17,750.91	4,999.34	0.00	125,878.94

Source: SEDA

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