

LoCARNet

**How We Could Promote Evidence-Based Policymaking
by Bridging the Gap between Policymakers and
Research Communities?**

22 November 2018

Jakarta, Indonesia

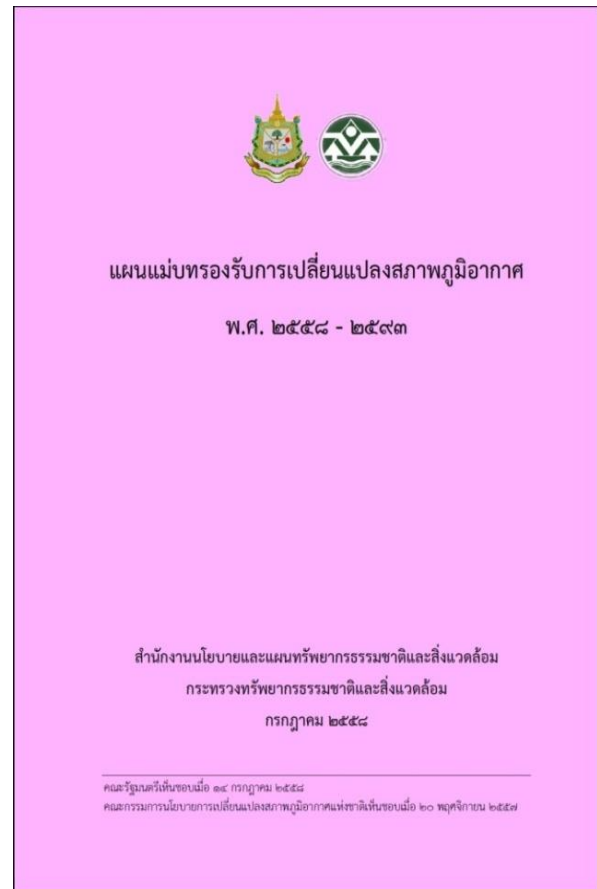
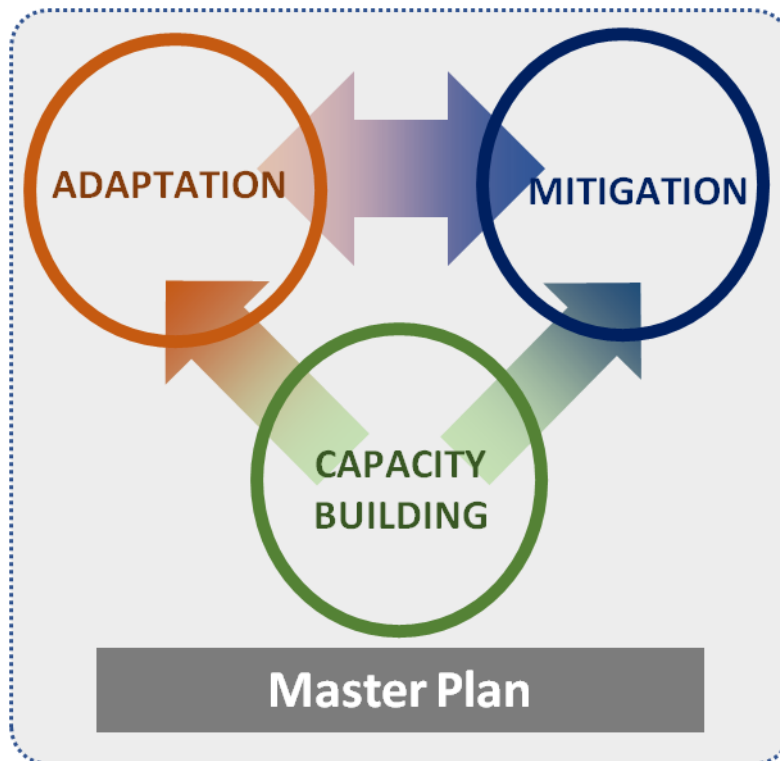
**Climate Mitigation Policies and Role of Models in
Thailand**

**Bundit Limmeechokchai
SIIT, Thammasat University**

Thailand's Climate Change Master Plan 2050

Vision

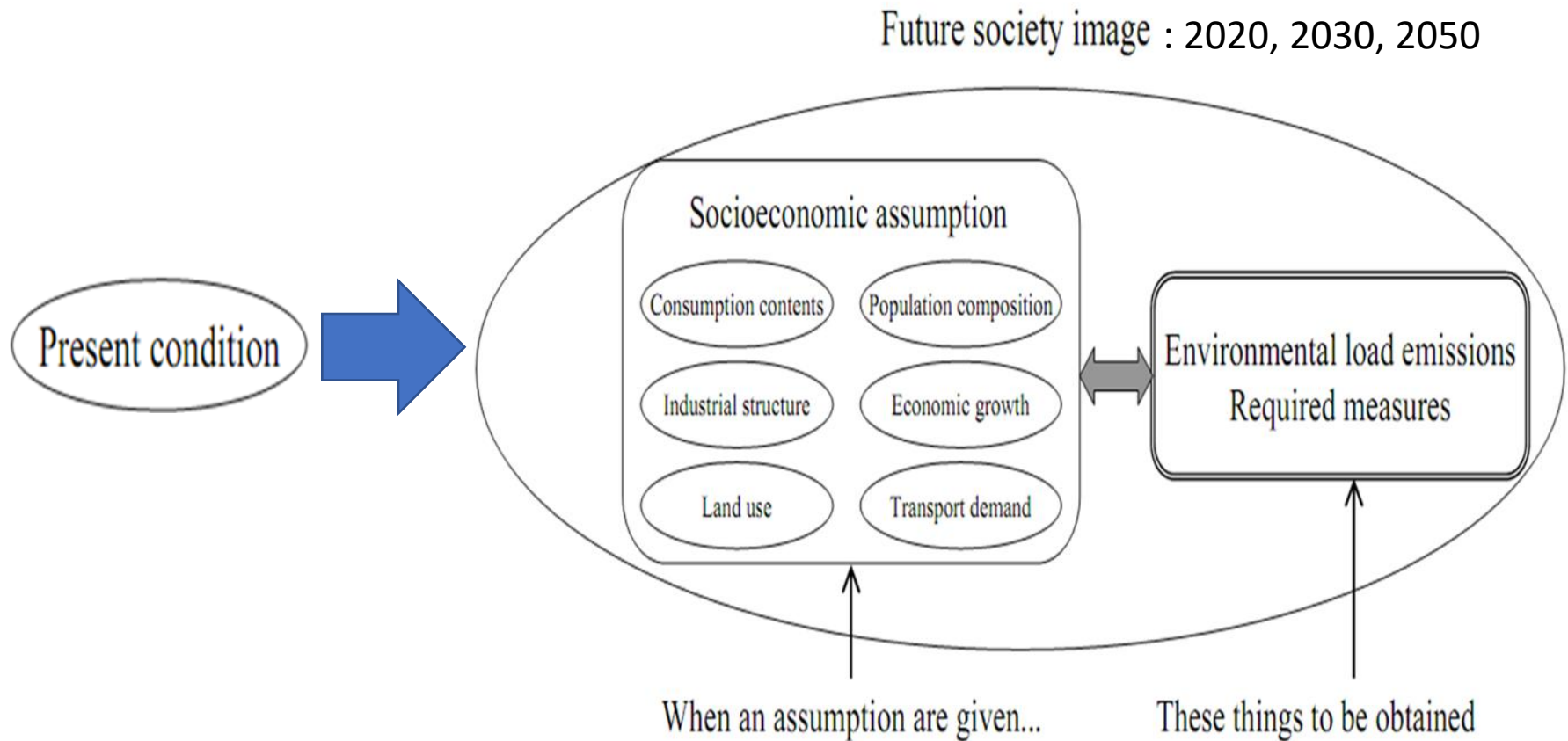
“Thailand can achieve adaptation to climate change and will be a low carbon society in sustainable approach”



Approved by Cabinet on
14 July 2015

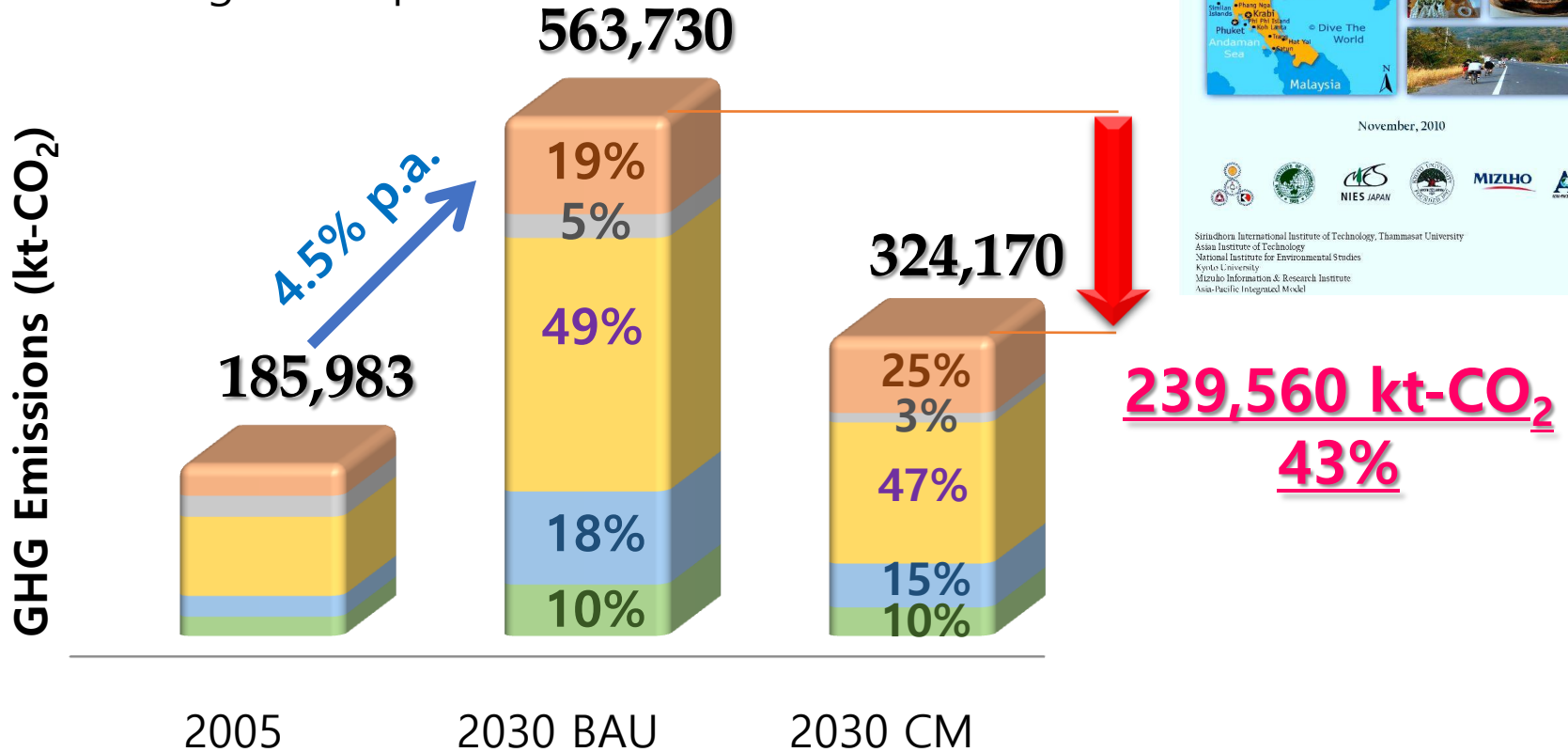
Methodology of LCS

The outline of the problem establishment of LCS



GHG EMISSIONS

- Residential
- Industry
- Freight transport
- Commercial
- Passenger transport



Remarks: BAU is Business as Usual
CM is Countermeasure

Low-Carbon Society Vision 2030 Thailand

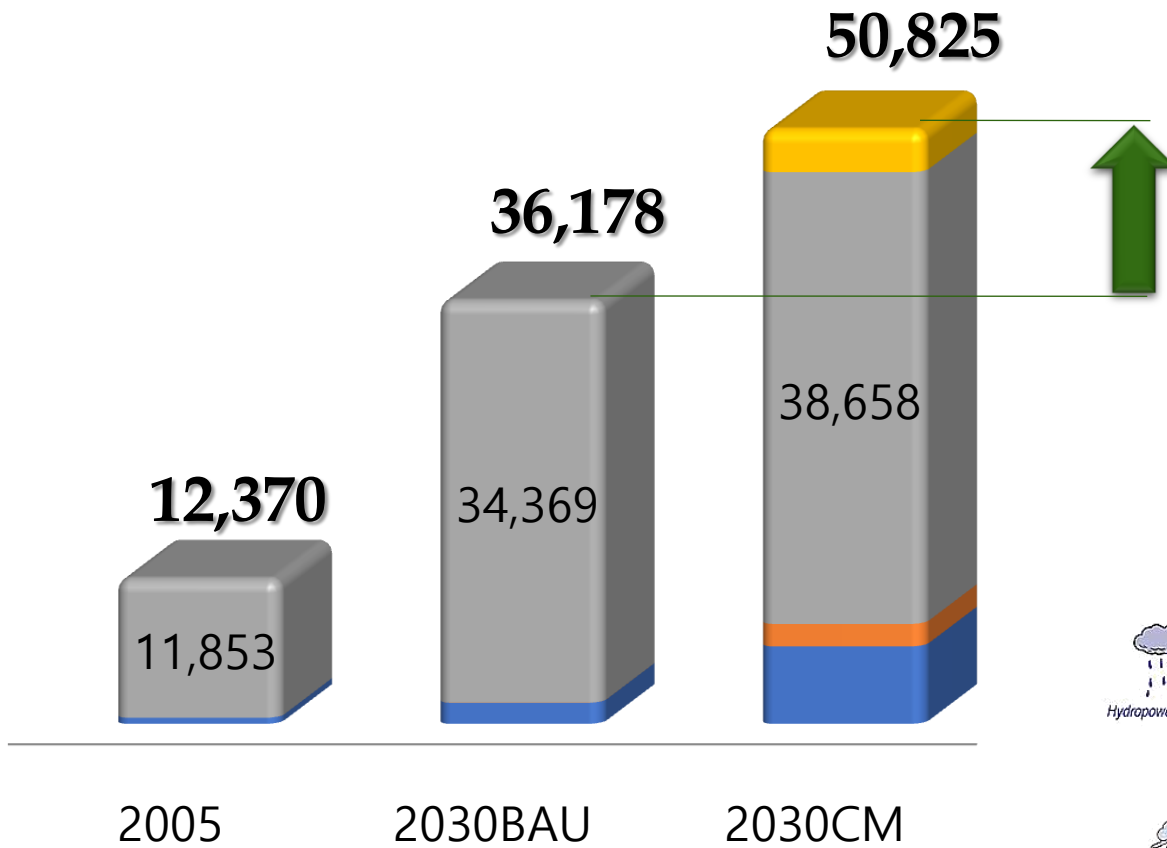
November, 2010

Sirachon International Institute of Technology, Thammasat University
 Assia Institute of Technology
 National Institute for Environmental Studies
 Kyoto University
 Mizuho Information & Research Institute
 Asia-Pacific Integrated Model

RENEWABLE ENERGY FOR SUPPLY SIDE

■ Hydro
 ■ Solar & Wind
 ■ Biomass
 ■ Nuclear

Primary Energy Demand (ktoe)

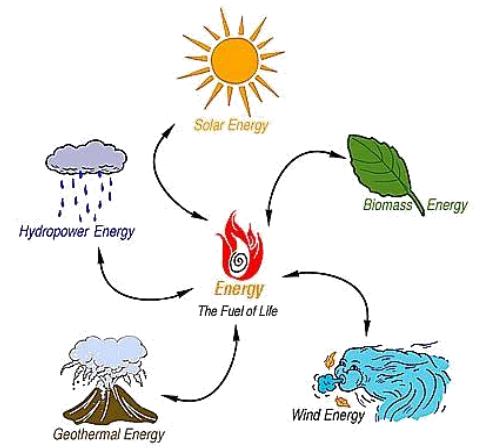


Low-Carbon Society Vision 2030
Thailand

November, 2010

14,647 ktoe

41%



Source: Bundit L. et al, , 2011

Alternative Energy Development Plan (AEDP2015)

Type	Situation in 2014 (MW)	Target in 2036 (MW)
1. MSW	65.72	500
2. Industrial Waste	-	50
3. Biomass	2,451.82	5,570
4. Biogas from waste water	311.50	600
5. Small Hydro	142.01	376
6. Biogas from biomass	-	680
7. Wind	224.47	3,000
8. Solar PV	1,298.51	6,000
9. Hydro (storage)	-	2,906
(MW)	4,494.03	19,684
Electricity (GWh)	17,217	65,588
National Elec. Demand (GWh)	174,467	326,119
Share of RE (%)	9.87	20.11

Key concept of AIM/Enduse Modeling

Technology System in Modeling

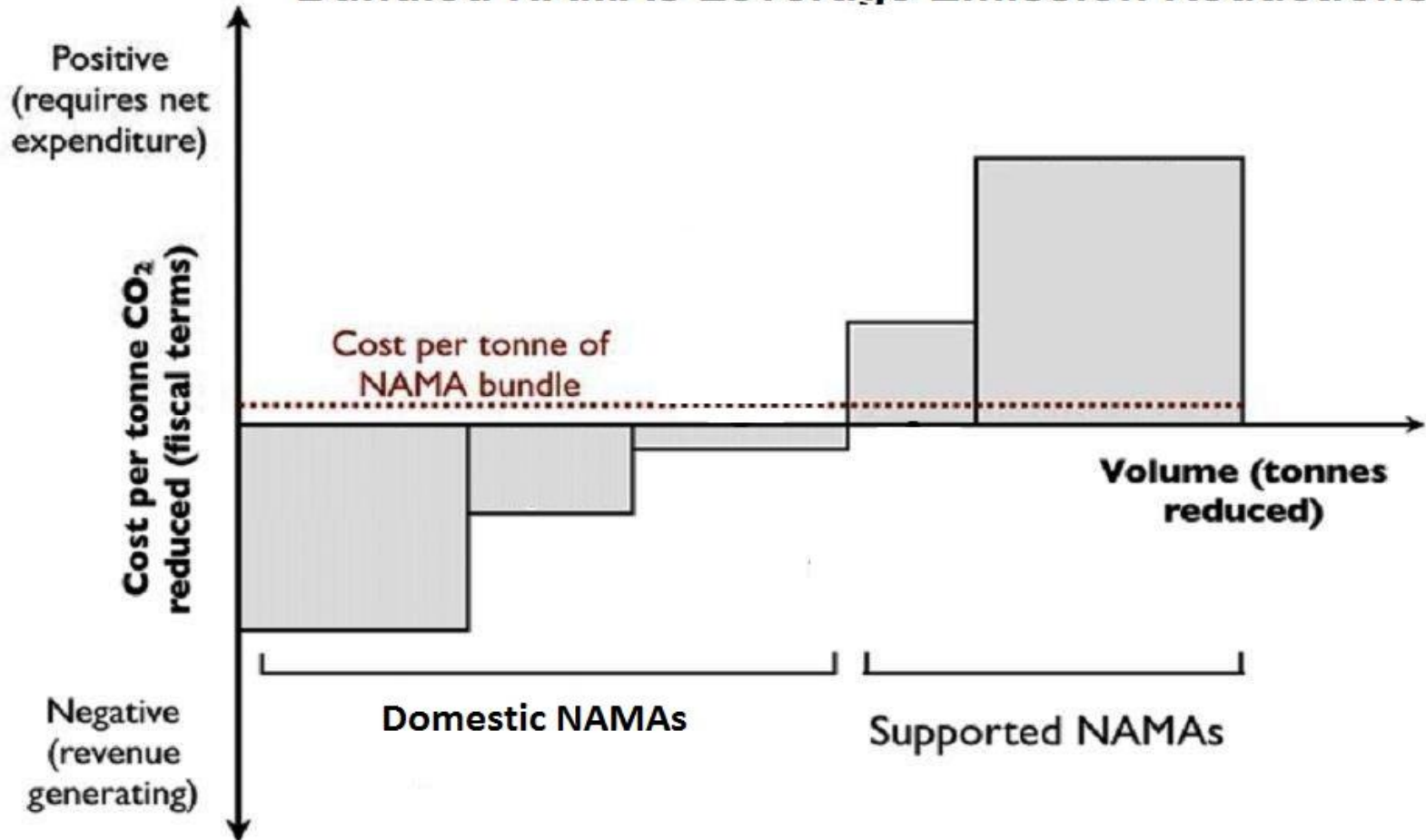
- Technology consumes energy and produces service
- By using this energy-technology- service relation, the model user defines technology system.



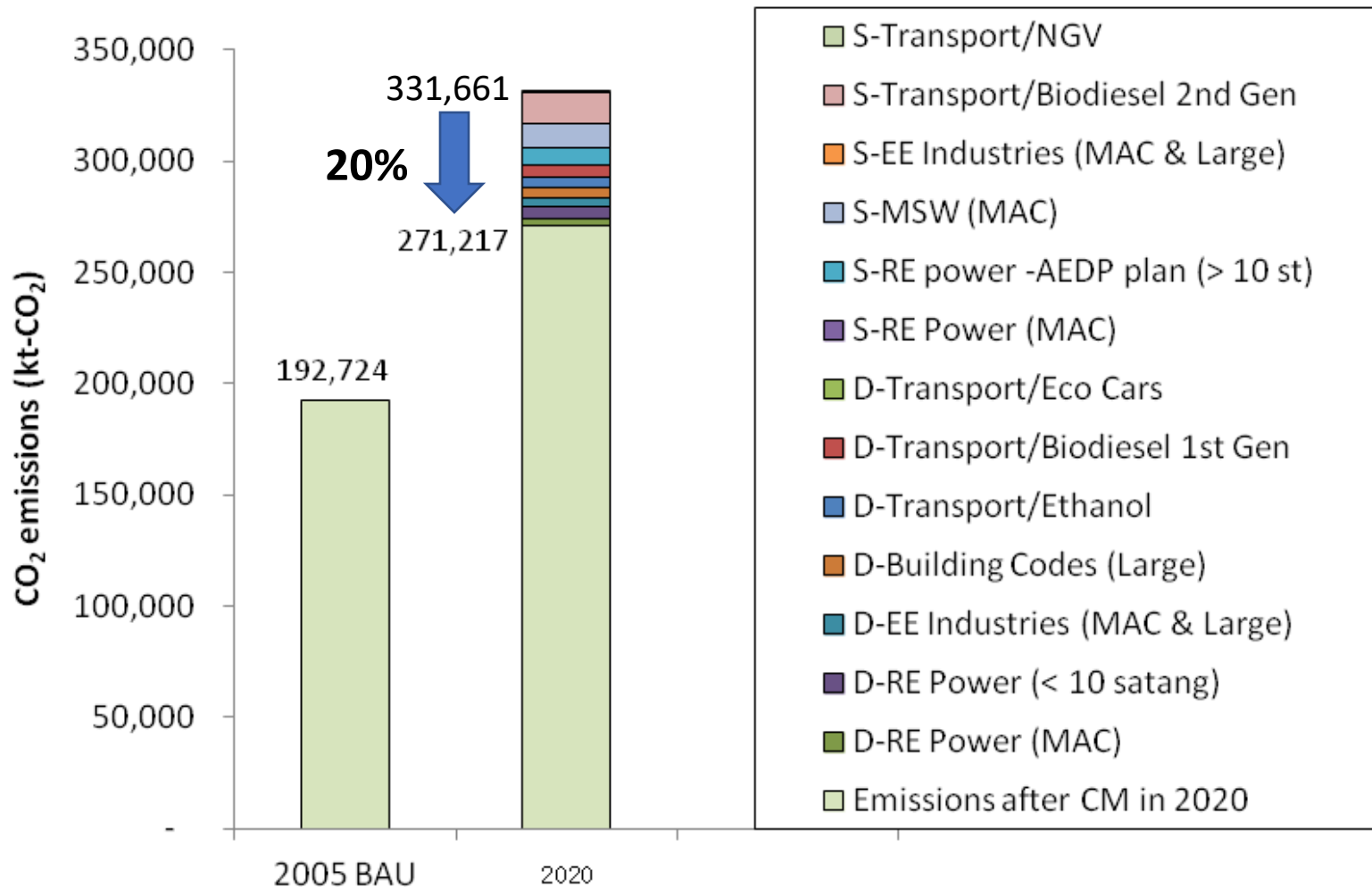
Criteria for Domestic & Internationally Supported NAMAs

$$\text{====> Abatement Cost (\$/t-CO}_2\text{) <====}$$

Bundled NAMAs Leverage Emission Reductions



Potentials of CO₂ Countermeasures in Thailand's NAMAs in 2020



Source: Thailand NAMAs, 2011

Co-benefits of Low Carbon Growth in Thailand NAMAs

Energy Security due to Thailand's NAMAs

Year	SWI*	DoPED**	Oil Intensity (toe/1000 USD)	Gas Intensity (toe/1000 USD)	Energy Intensity (toe/1000 USD)	CO2 emissions intensity (t-CO2/USD)
2005	1.34	68.82	0.111	0.079	0.280	0.696
2020 BAU	1.35	69.24	0.093	0.077	0.260	0.556
2020 NAMA	1.44	74.18	0.069	0.045	0.197	0.456

* SWI: Shannon-Wiener index

**DoPED: Index for diversification of primary energy demand

Institutions towards Low-Carbon Growth in Thailand

National Committee on Climate Change Policy (NCCC)

Prime Minister

Chair

“HIERARCHICAL STRUCTURE”

Minister of Natural Resources and Environment

Vice-Chair

Minister of Foreign Affairs

NCCC members:

- | | | |
|---|---------------------------------------|---|
| 1. Prime Minister’s Office | 6. Ministry of Energy | 13. Bangkok Metropolitan Administration |
| 2. Ministry of Finance | 7. Ministry of Commerce | 14. Office of the National Economics and Social Development Board (NESDB) |
| 3. Ministry of Agriculture and Cooperatives | 8. Ministry of Interior | 15. Bureau of Budget |
| 4. Ministry of Transport and Communications | 9. Ministry of Science and Technology | 16. 5-9 Experts |
| 5. Ministry of Information and Communication Technology | 10. Ministry of Education | |
| | 11. Ministry of Public Health | |
| | 12. Ministry of Industry | |

Secretariat
Permanent Secretary, Ministry of Natural Resources and Environment

ONEP

TGO

Integrated Policy and Plan Sub Committee

Chair: Permanent Secretary, MNRE
Vice-Chair1: Secretary General, ONEP
Vice-Chair2: Secretary General, NESDB
Members: 24 persons
Secretariat: ONEP

Technical and GHG Data base Sub Committee

Chair: Secretary General, ONEP
Vice-Chair: Executive Director, TGO
Members: 28 persons
Secretariat: ONEP & TGO & DEQP

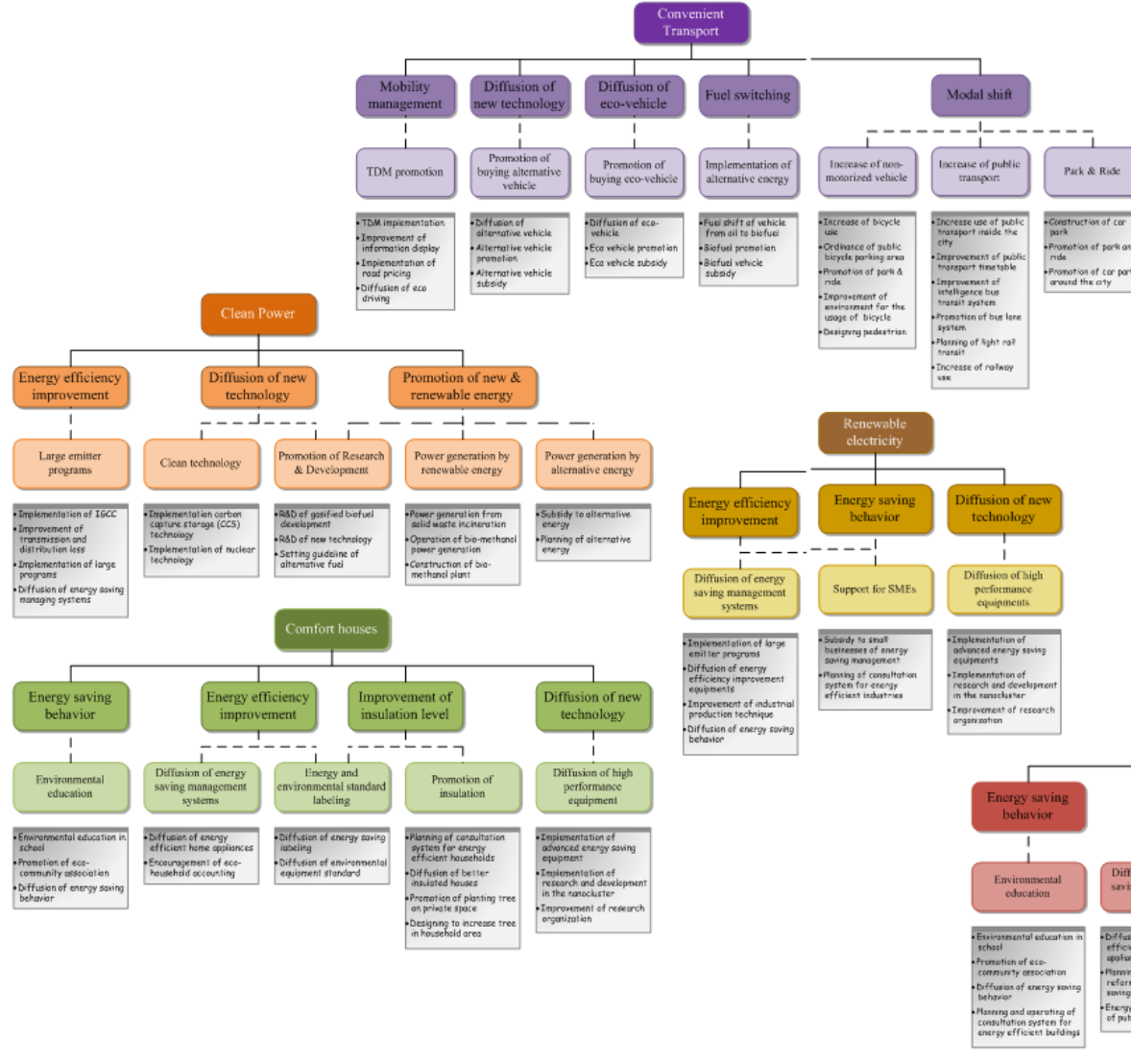
Coordination & Negotiation Sub Committee

Chair: Permanent Secretary, MNRE
Vice-Chair1: Secretary General, ONEP
Vice-Chair2: Director-General of the Department of International Organizations (DIO)
Members: 14 persons
Secretariat: ONEP & DIO

Roadmap to Low Carbon Thailand towards 2050

Low Carbon Society Scenario Toward 2050

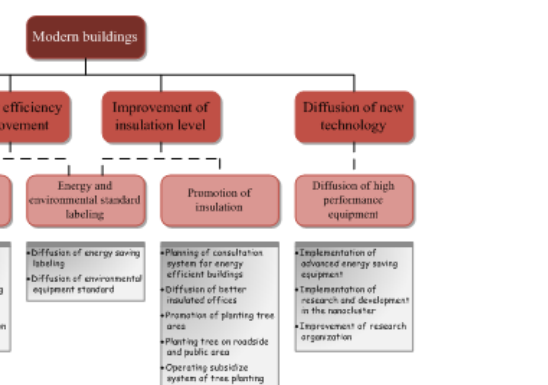
Thailand



DRAFT

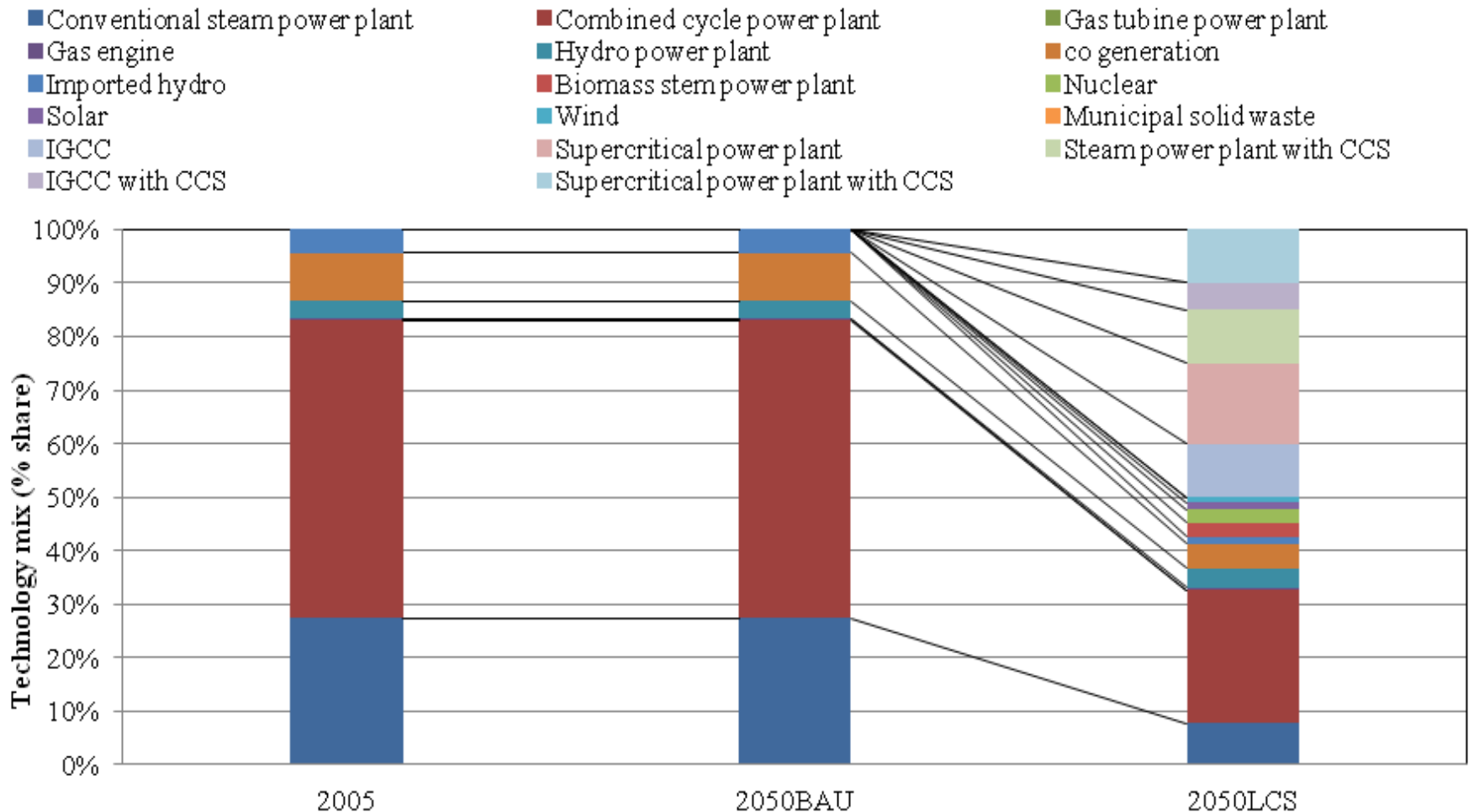
Sirindhorn International Institute of Technology, Thammasat University
 Asian Institute of Technology
 Asia Pacific Integrated Model (AIM) Team
 National Institute for Environmental Studies (NIES)
 Kyoto University

AIM
 NIES
 MIZUHO



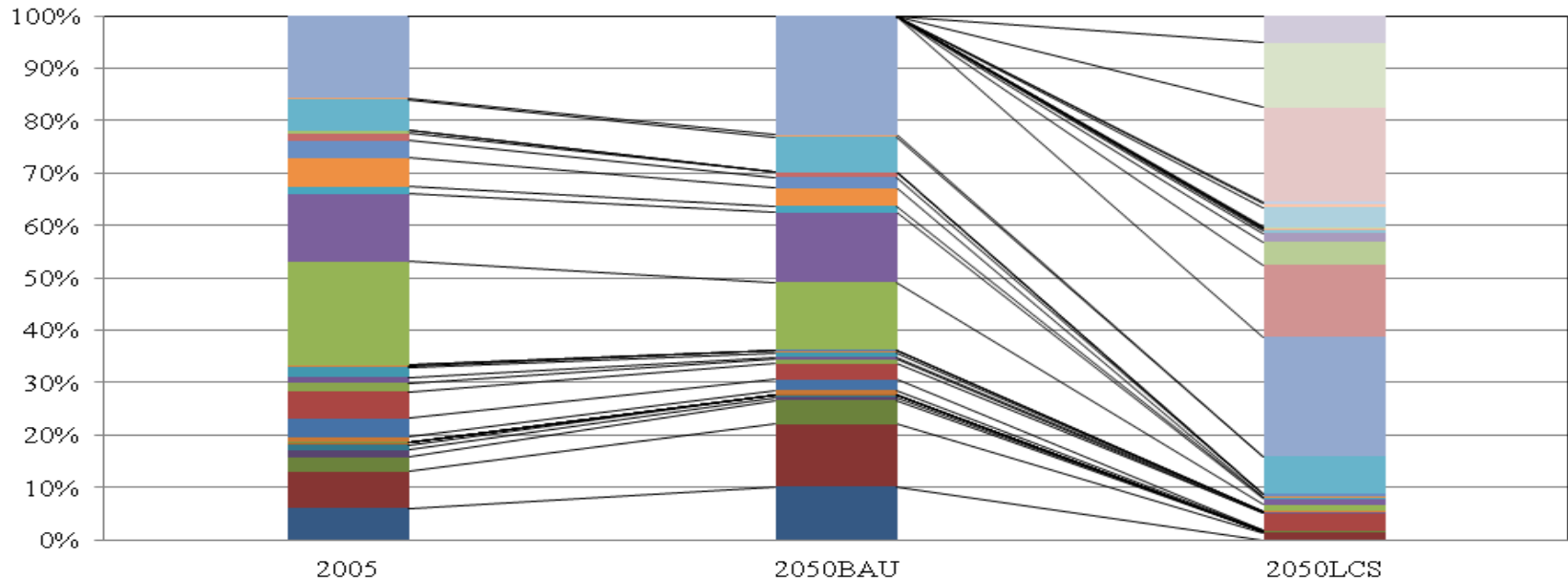
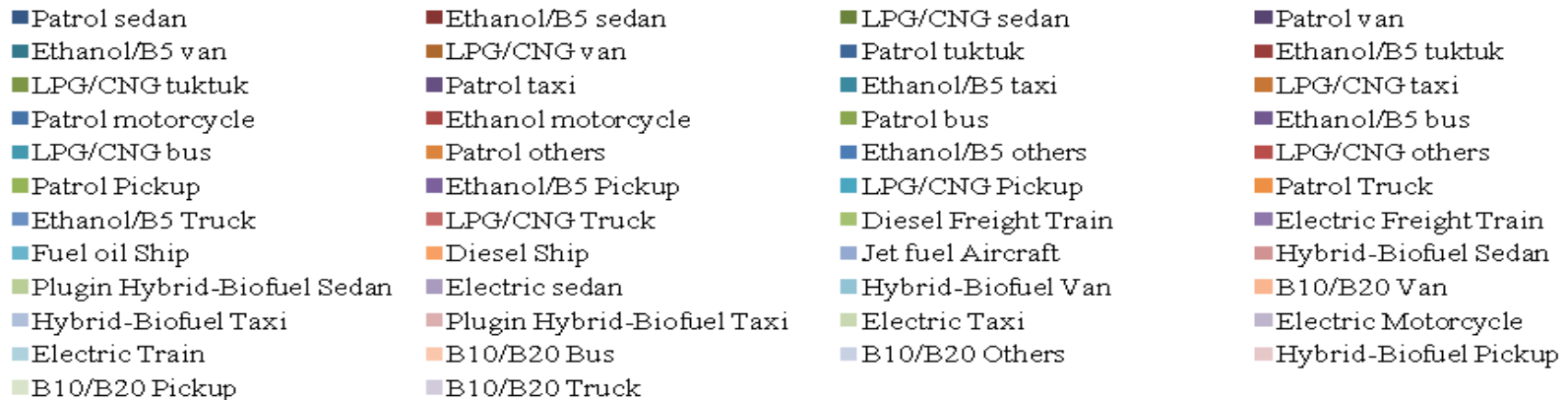
Roadmap to Low Carbon Thailand towards 2050

Technology Mix in the *Clean Power Generation*

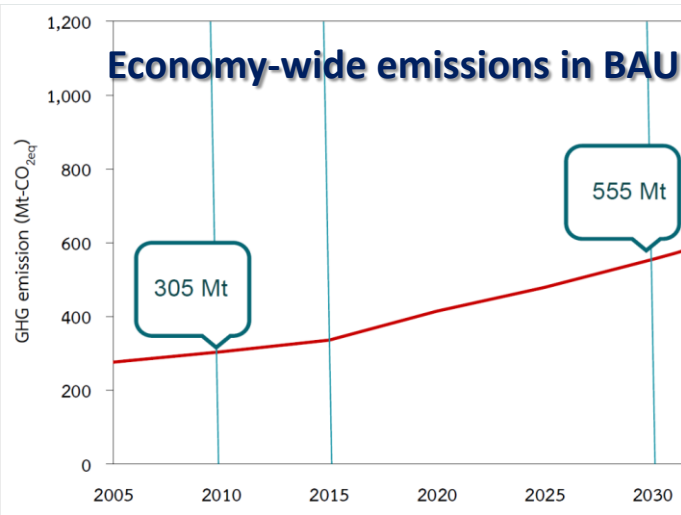


Roadmap to Low Carbon Thailand towards 2050

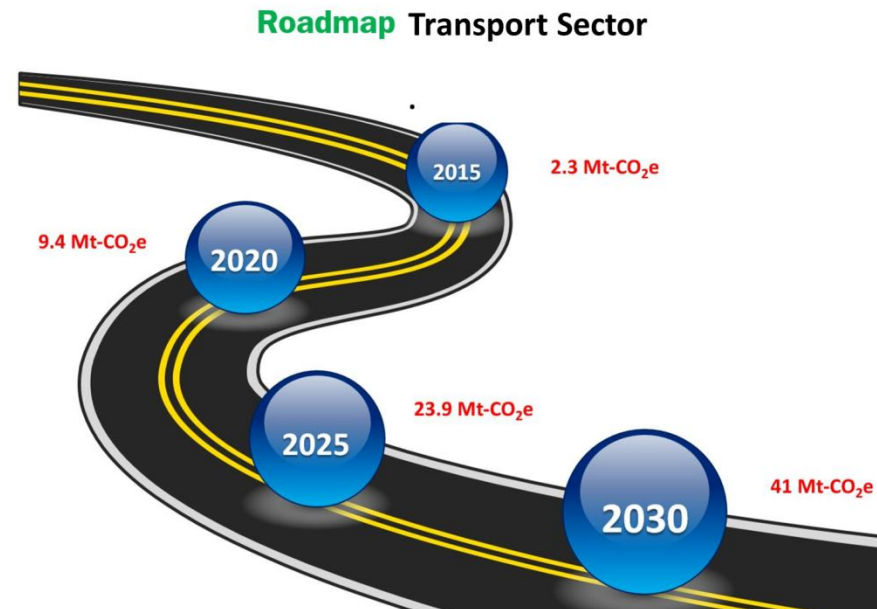
Technology Mix in the *Convenient Transport*



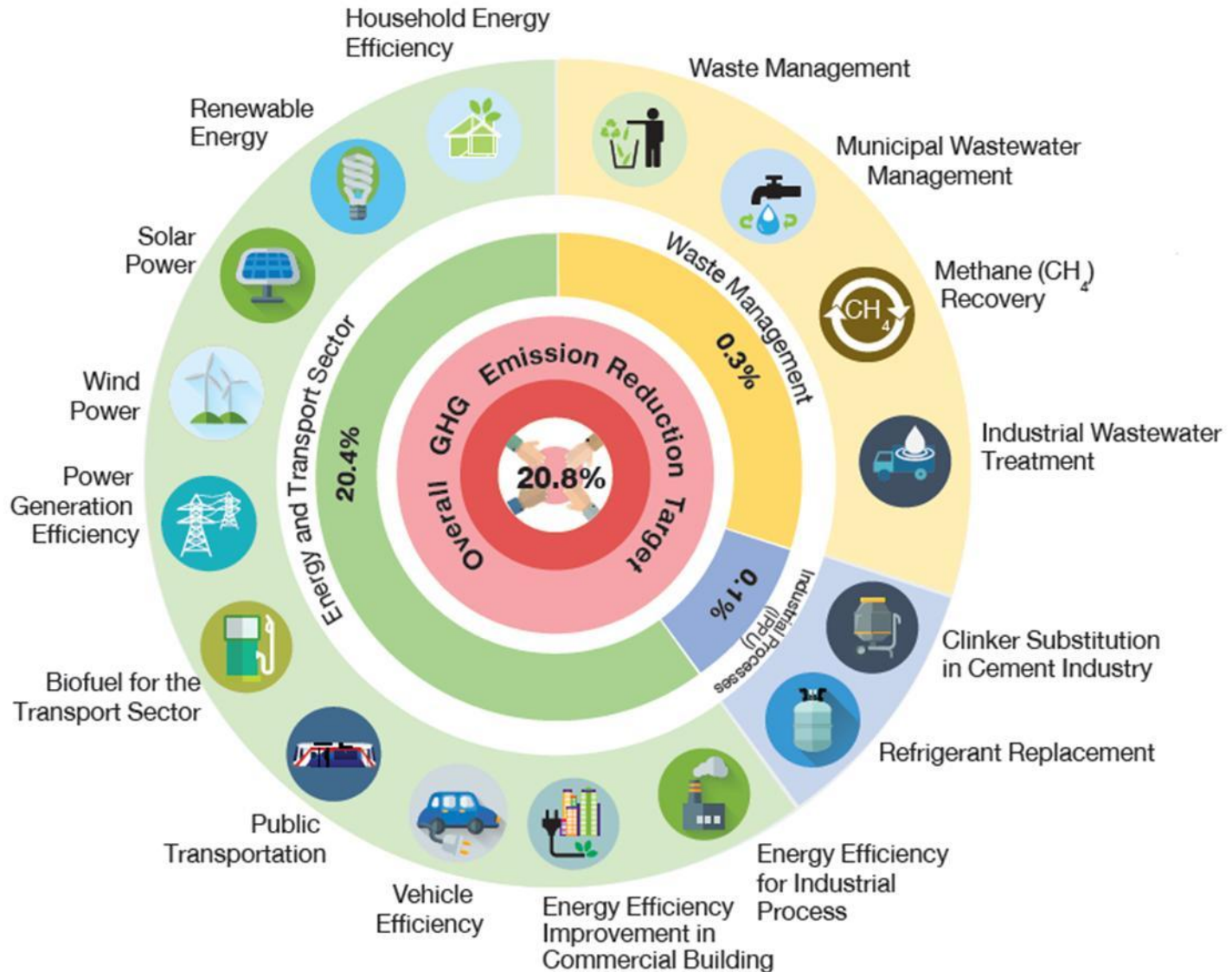
Thailand's PM Delivered National Climate Pledge at Paris Summit



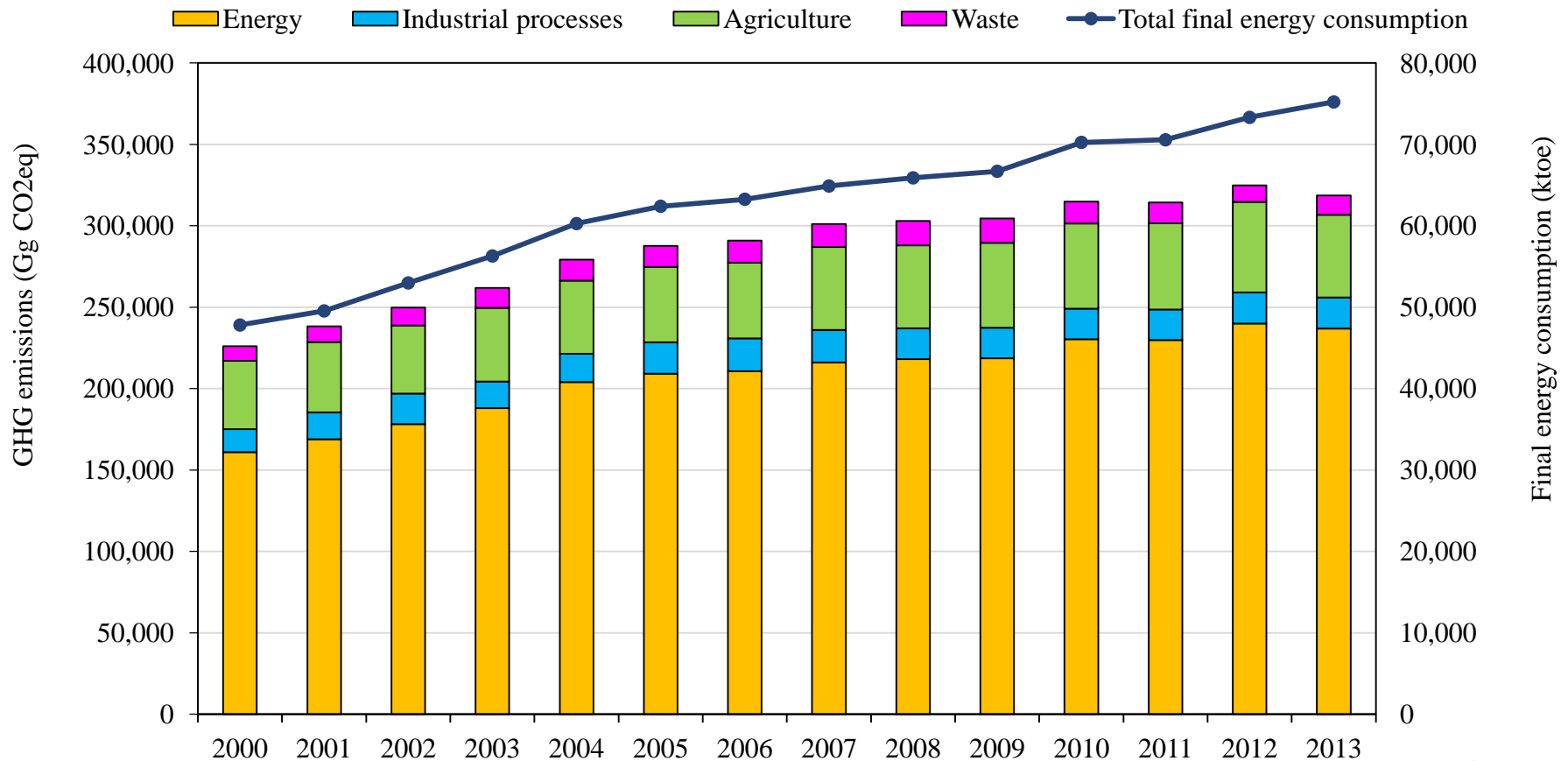
“The 20% is a goal to be achieved by the country's resources alone while the additional 5% will require international support in terms of finance, knowhow and technology”



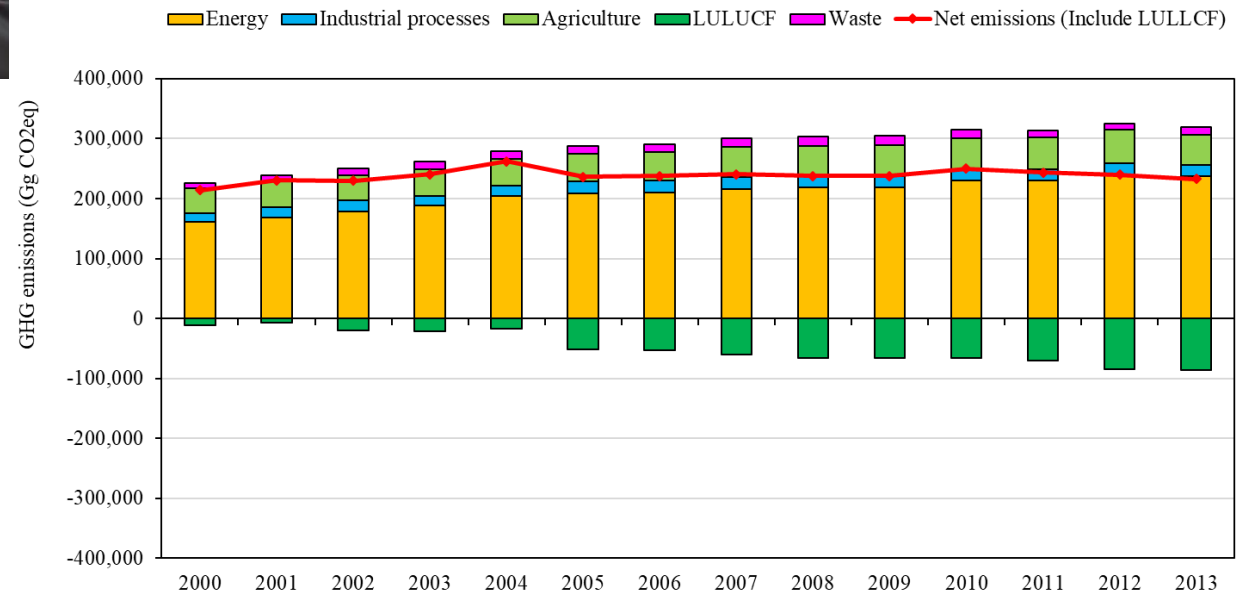
THAILAND NDC ROADMAP 2030



Trends of GHG emissions and Total final energy consumption: 2000-2013



Thailand Greenhouse Gases Emissions Inventory System (TGEIS) (JUL 2018)





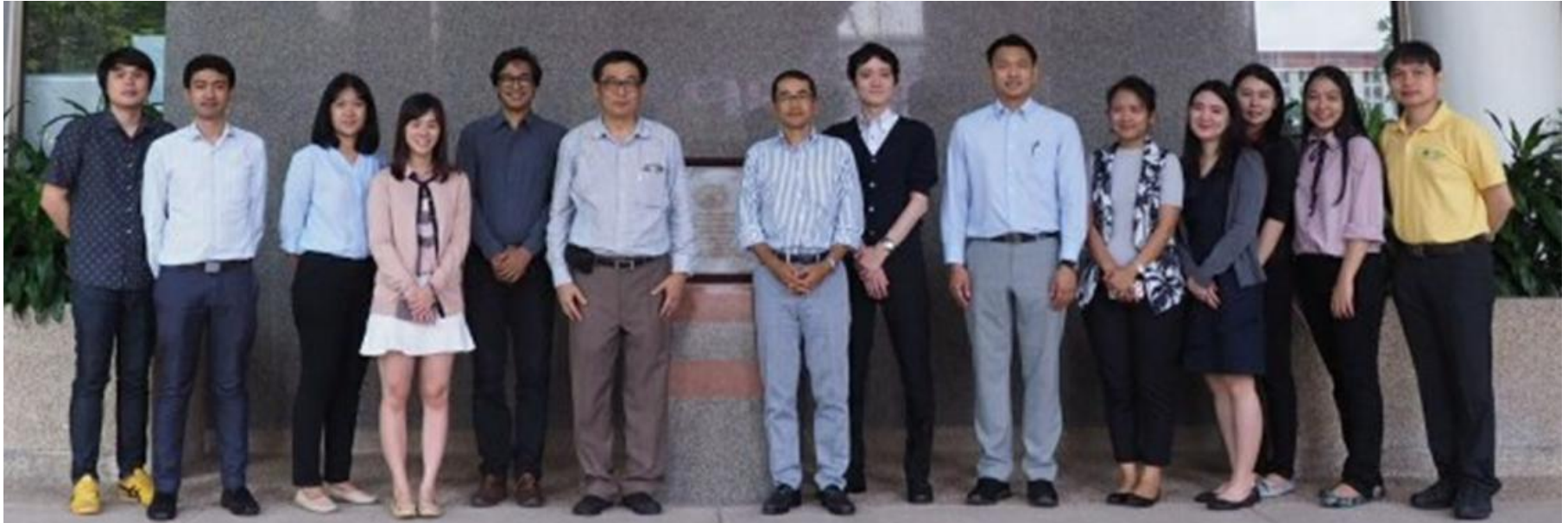
AIM Training Workshop
SIIT-TU, Thailand
January 30 - February 1, 2017



AIM Training Workshop in Thailand

AIM/Enduse Training Workshop at SIIT-TU, Thailand

June 2018 (Beginning level for Policy maker)



AIM Training Workshop in Thailand

CGE Training Workshop at SIIT-TU, Thailand

June 2018 (Beginning level for Policy Makers)



Participant: Bhutan, Thailand: ONEP & CITC, SIIT-TU, JICA-Thailand

Thailand's National Strategy for 20 years

Royal Thai Government Gazette, 13 OCT 2018

R
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L
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Aging
society

International
framework
agreements

Paris
Agreement

Social
Inequality

Economic
Slow down

S&T
Advancement

SDGs

Political
Instability

Labor
Quality

Thailand's National Strategy for 20 years

6 strategies

- National security
- Competitiveness
- Human resources development and empowerment
- Opportunities and social equality
- **GROWTH ON ENVIRONMENTAL FRIENDLY QUALITY OF LIFE**
- Balancing and developing the governmental management system

To create sustainable growth in a climate-friendly society focusing on **“REDUCING GHG EMISSION”** and **“CREATING A LOW CARBON SOCIETY”**

Climate Change International Technical Training Center (CITC)

CITC-JICA

Long-Term Strategic Plan Workshop (Nov 2018)



TERIMA KASIH
THANK YOU
どうもありがとう

The spirit of LoCARNet

A Japanese old maxim

- You cannot say you mastered knowledge until you use it in action on the ground

Ekiken Kaibara (1630-1714)

- 知っていてもそれを行動に移さないのであれば、知らない者となんらかわりは無い。

知 知
ら っ
ず て
に 行
同 わ
じ ざ
ら ば

具原益軒