



ประเทศไทย Thailand

THAILAND VISION 2050

Thailand achieves a climate change resilience and low-carbon society following sustainable development pathway.

2014

Nationally

Appropriate Mitigation Actions (NAMA)
Thailand voluntarily pledged 7.30% emissions reduction compared to business as usual (BAU) in the energy and transport sectors by 2020.

2015 Paris Agreement

Climate Change Master Plan (2015-2050) launched with balancing of capacity building, mitigation, and adaptation.

Vision : In 2050, Thailand achieves a climate change resilience and low-carbon society following sustainable development pathway.

Intended Nationally Determined Contribution (INDC)

Thailand submitted INDC to reduce emissions by 20% from the projected business as usual (BAU) level by 2030. The level of contribution could increase up to 25% subject to adequate and enhanced access to technology development and transfer, financial resources and capacity building support through a balanced and ambitious global agreement under UNFCCC.

Energy Efficiency Plan (2015-2034)

Thailand ratified the Paris Agreement.

Paris Agreement entered into force.

2016

2017

Nationally Determined Contribution Roadmap (NDC Roadmap)

SDG13 Climate Action Roadmap
Climate Change Strategy on Agriculture Sector (2017-2021)

Action for Climate Empowerment (ACE) Strategy

TIME TO ACCELERATE ACTION

National Adaptation Plan (NAP)

- (1) Water Management
- (2) Agriculture and Food Security
- (3) Tourism
- (4) Public Health
- (5) Natural Resources
- (6) Human Settlement and Disaster

Nationally Determined Contribution (NDC) Sectorial Action Plans

- 1 Energy Sector
- 2 Transport Sector
- 3 IPPU and Industrial Waste
- 4 Municipal Waste

2018

Transport System Development Strategy
Master Plan on Water Resources Management (2018-2037)

Plastic Waste Management Roadmap (2018-2030)

In 2019, ban eco-plastic, cup, bowl, and microbead
By 2025, ban cellulosum food container, glass, straw, and plastic bag <36 micron
By 2027, 100% 3Rs of plastic in action

Adaptation Plan on Public Health Sector (2018-2030)

Action for Climate Empowerment (ACE) Roadmap

2019

34th

ASEAN Summit
Bangkok Declaration on Combating Marine Debris in ASEAN Region

Thailand's national target is to reduce 5% of floating plastic debris by 2027.

Action for Climate Empowerment (ACE) Stock Taken

1st January 2020:

BAN single use plastic bag

End of NAMAs Implementation

Bangkok's emission reduction target

13.57%

2020

2021

Nationally Determined Contribution (NDC) starts with emission reduction target 20.8%

- 20.4% from Energy and transport sector
- 0.3% from Waste Management
- 0.1% from Industrial Processes

2030

Achievement of the Nationally Determined Contribution (NDC) 20-25% emission reduction



THAILAND'S ACTIONS FOR CLIMATE @ COP25

Mitigation Action

THAILAND





Thailand National Context

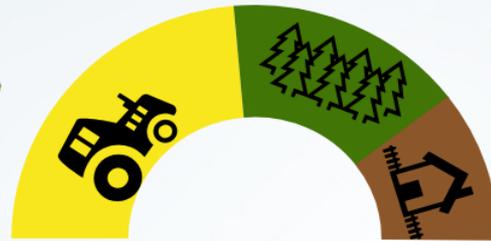


Kingdom of Thailand



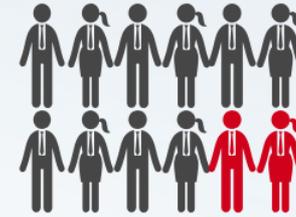
Land area approximately 514,000 sq. km.

Land use in Thailand



Agricultural land (47%) Forest land (32%) Non-Agricultural land (21%)

Population

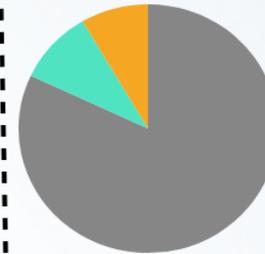


66,413,979 People



Gender Ratio 96/100 (M/F)

Energy Consumption



Commercial Energy 81.98%
Traditional Renewable Energy 9.58%
Renewable Energy 8.44%

Economic Profile

GDP per capita in 2015 4,362 USD



Upper-middle-income Economies

Thailand GDP's Contributors



Tourism industry accounted for 18%



Agriculture accounted for 12.7%



GHGs Inventory 2000 - 2013



In 2013, CO₂ emissions represents more than **76%** of the total GHG emission, followed by emissions of methane, CH₄ (**19%**) and nitrous oxide, N₂O (**5%**).

74% of equivalent emissions, from the 'Energy' sector.

Energy Sector. Industrial processes Sector. Agriculture Sector. Waste Sector. LULUCF Sector.

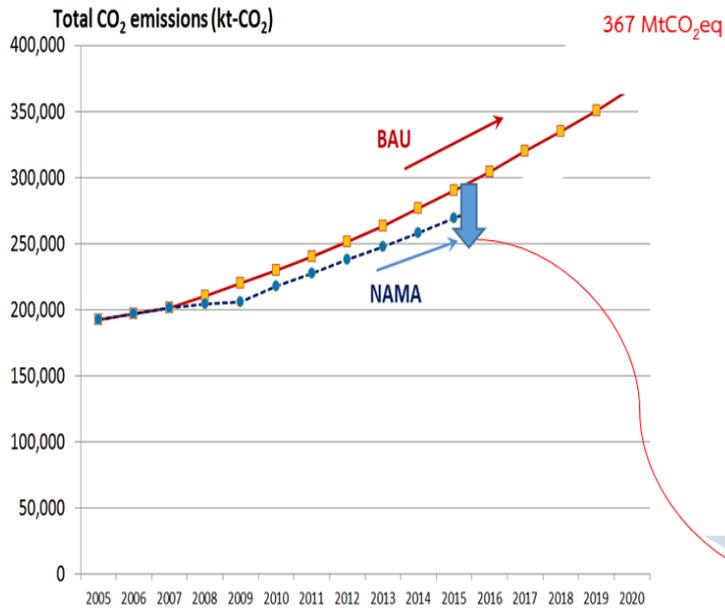


Mitigation Actions and Effects

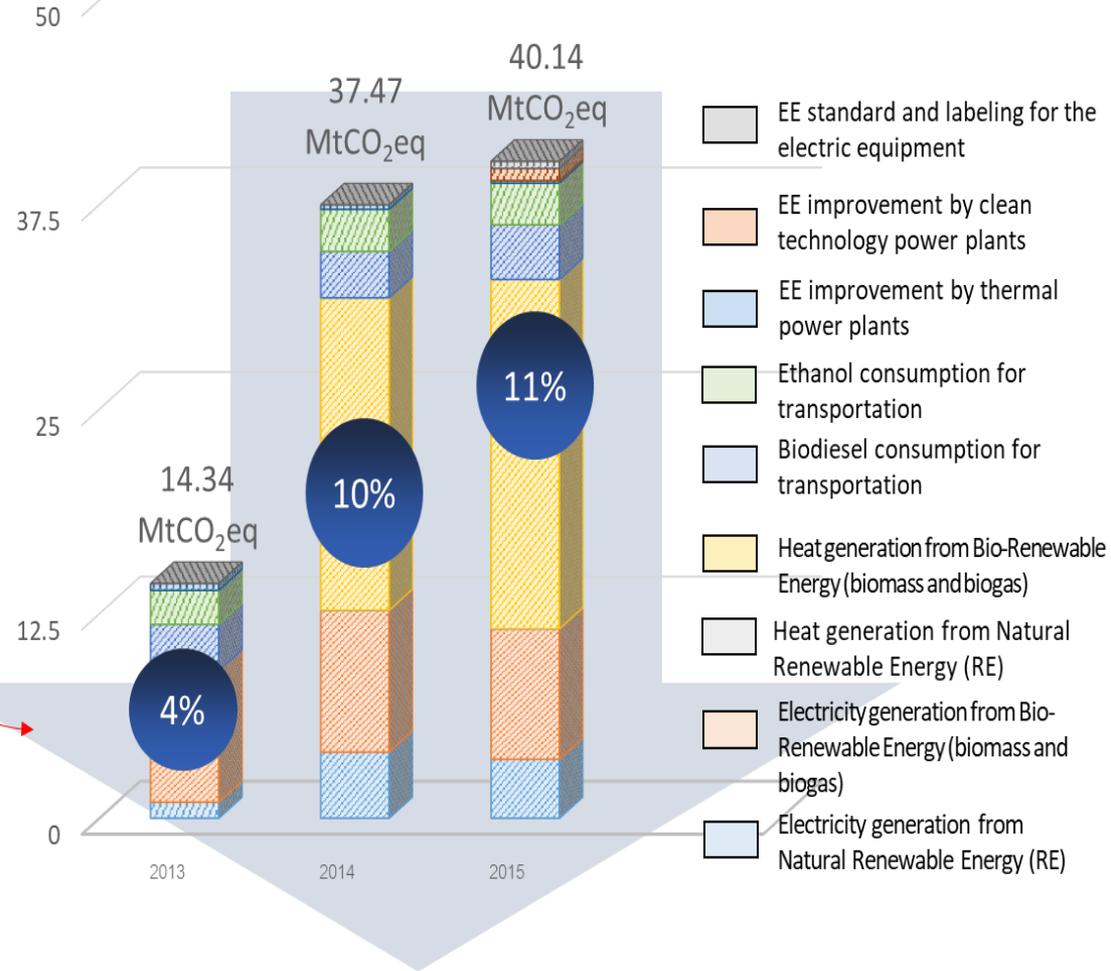


Mitigation Targets: NAMA

- Reduce emission 7-20% in energy sector compared to the BAU scenario (by 2020)



Emission reduction: 40.14 MtCO₂eq in 2015





THAILAND'S NATIONAL ADAPTATION PLAN





Thailand National Adaption Plan



Concept

- Thailand's National Strategy
- Reform Agenda
- Thailand 4.0
- National Economic and Social Development Plan

- Global Mechanism**
- SDGs
 - UNFCCC/Paris Agreement & other
 - NDC Adaptation
 - Sendai Framework
 - Convention on Biodiversity & Ramsar
 - ETC.

**Thailand
Climate Change
Master Plan**

- Policy and plan on Promotion and Conservation of National Environmental Quality
- Environmental
- Quality Management Plan

**National
Adaptation
Plan**

Sectoral Plans

- NAP-Ag
- H-NAP
- National Water Resources Management Strategy Plan
- Master Plan for Integrated Biodiversity Management
- ETC.



Ecosystem

Watershed

Region

Cluster

Province

City

Community

Local

individual

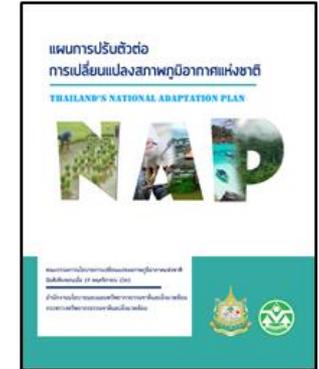
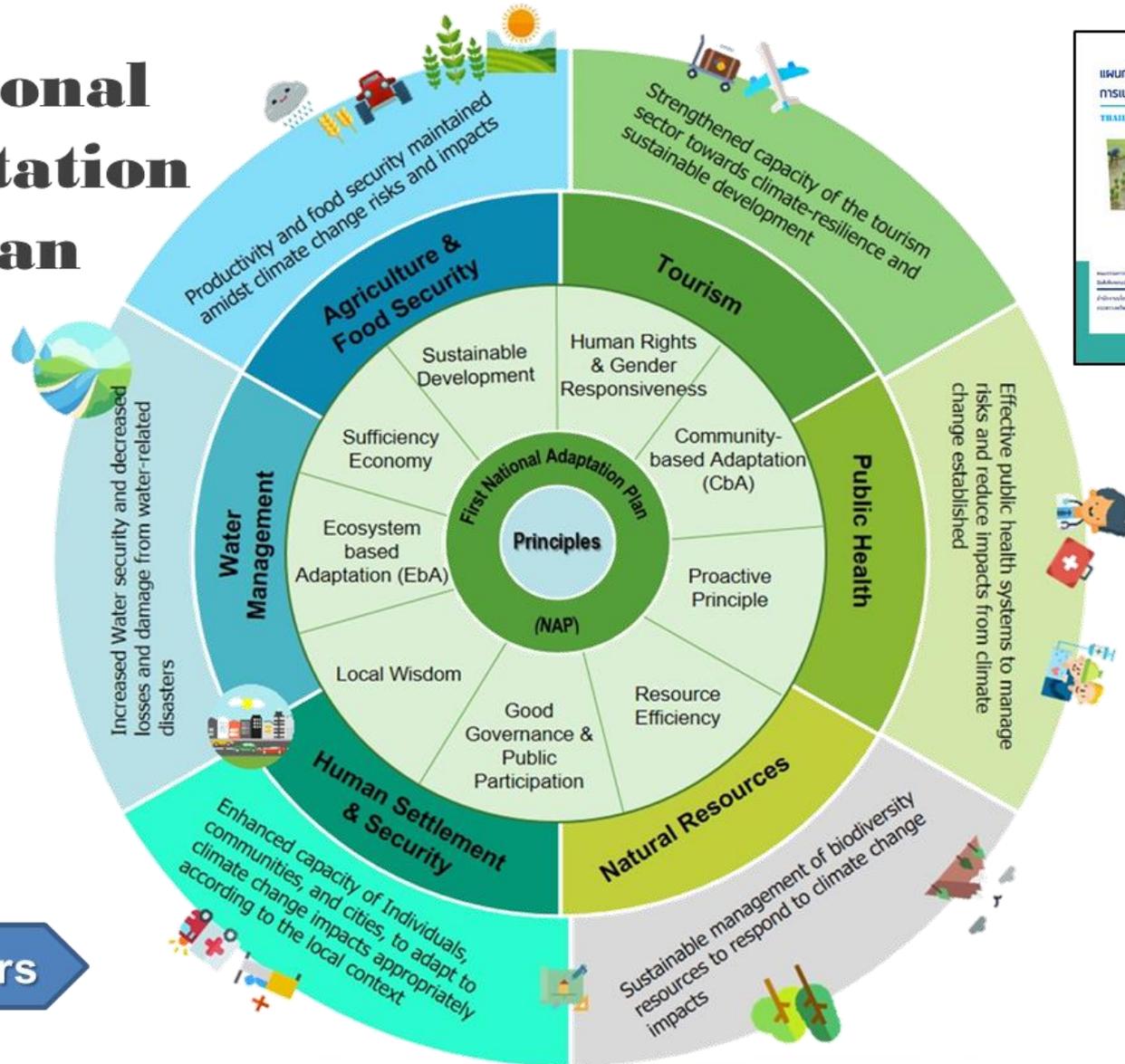
Other



Thailand National Adaption Plan



National Adaptation Plan



6 Sectors



**Climate Change Management and Coordination Division
Office of Natural Resources and Environmental Policy and Planning
Ministry of Natural Resources and Environment**

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<http://climate.onep.go.th>

Thailand

Water Resources Management

**As WATER is
the National Security**



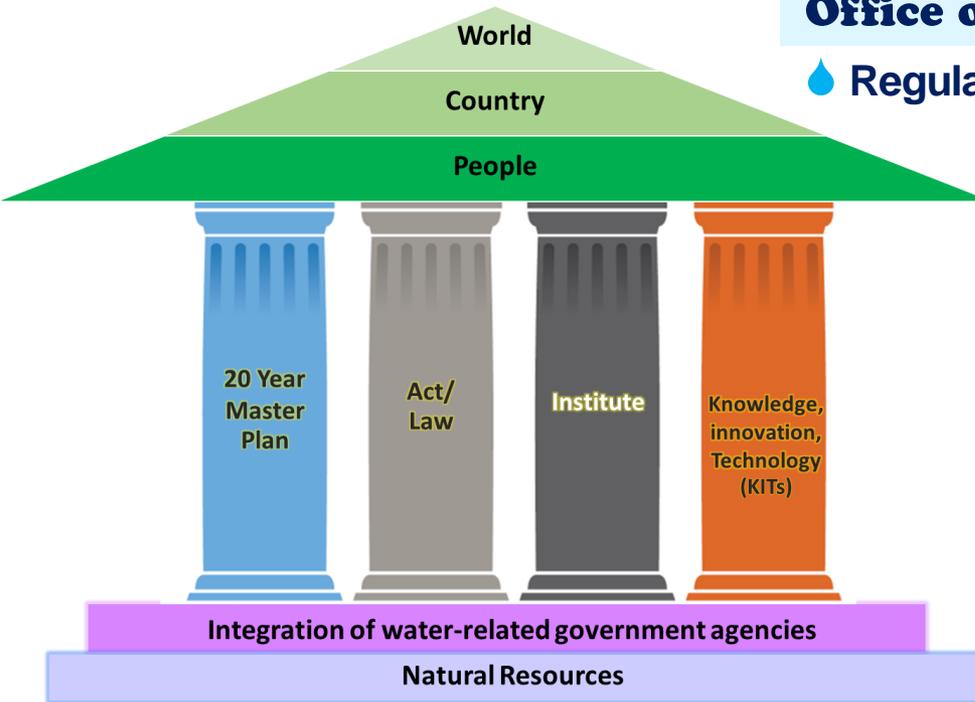


Frame of Water Management



Office of the National Water Resources (ONWR)

Regulator Policy Advisor Operator Facilitator



Challenges to work out

Policies

- MRC Technical guideline
- Transboundary coordination

Climate Change

- R&D on water management and adaptation
- Data sharing network with MRC member countries

Human Resources

- Capacity building
- Access to updated water information

Environmental Impact & Economy

- Secure environment & economy among MRC member countries

Strategy with SDGs concerned

- ▶ Apply SEA for basin development plan
- ▶ Balance use of national natural resources
- ▶ Mitigate impact to transboundary water



The 20 Year Water Resources Master Plan



1 Domestic Use

- Provide clean water for all villages, cities, tourist hotspot and economic zone
- Provide sufficient water for water-scarcity area
- Provide clean drinking water at the reasonable price



2 Water for production (Agri + Ind)

- Develop water storage and delivery system
- Develop alternative water sources
- Rain harvesting
- Increase water use efficiency



3 Flood management

- Improve drainage capacity
- Integrated land use planning: waterways schematics vs. land use map
- Prevention of city/ community logging flood
- Building resilience in risk area



4 Water quality and conservation

- Prevent and reduce point source
- Construct community wastewater treatment plant
- Reuse and recycle
- Allocate sufficient water for ecosystem services
- Natural watercourse restoration and renovation



5 Watershed conservation

- Upstream forest restoration
- Prevent soil erosion in highly steep agricultural area



6 Management

- Institute, Laws
- International cooperation and finance
- Data and Monitoring system
- Participation approach¹³
- R&D, KITs





Power of Partnership





Office of the National Water Resources

Juthamard Building, Address Number 89/168-170
Vibhavadi Rangsit Road, Talad Bang Khen Sub-District,
Lak Si District, Bangkok, 10210

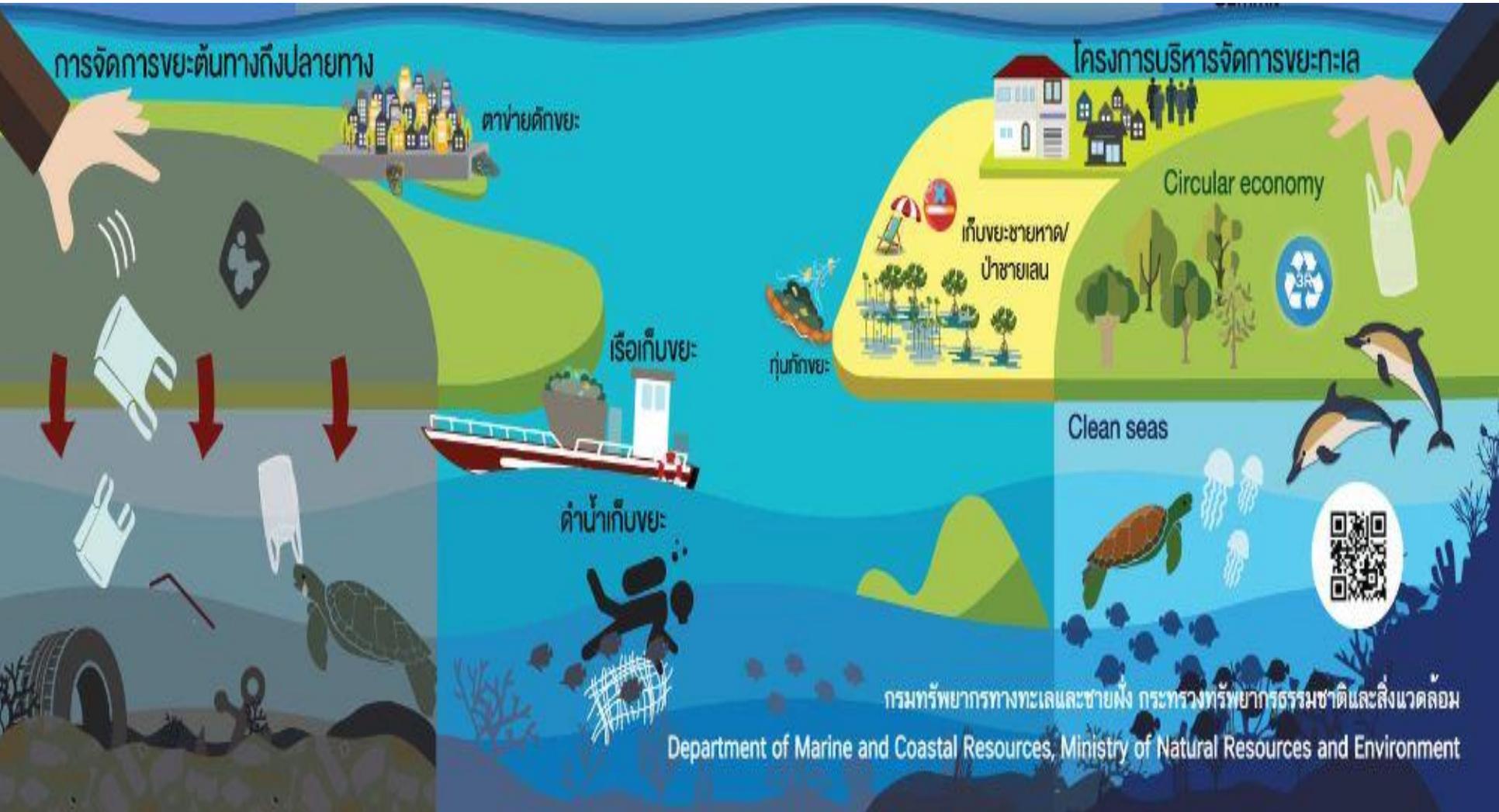
Tel: 0 2521 9141 Fax: 0 2521 9145 Email: onwr@onwr.go.th



www.onwr.go.th



Thailand OCEAN Management

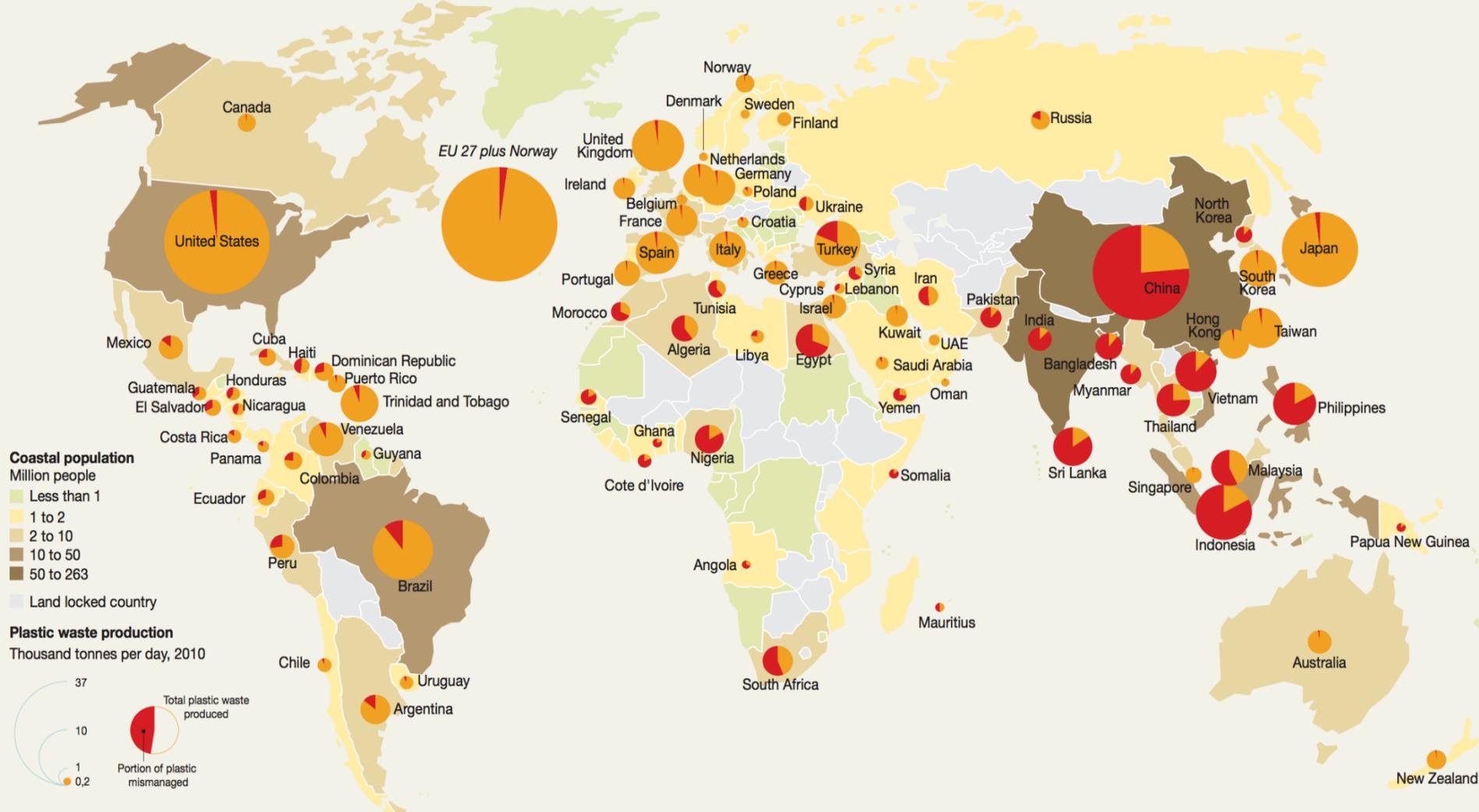




Marine Debris : Global Concern



Plastic waste produced and mismanaged



Source: Jambeck, J. R., et al., Plastic waste inputs from land into the ocean, Science, 2015; Neumann B., et al., Future Coastal Population Growth and Exposure to Sea-Level Rise and Coastal Flooding - A Global Assessment. PLoS ONE, 2015.



Thailand Marine Debris Situation



สัดส่วนขยะชายหาด ข้อมูลระหว่างปี 2552-2558
(Fraction of coastal garbages, data of 2009-2015)



ขยะอื่นๆ
Other garbages
35%

ภาชนะบรรจุอาหาร
Food ware
4%

จาน, ช้อน หรือ มีด
Plate, Spoon or Knife
4%

ขวดแก้ว
Glass bottle
5%

บุหรี่
Cigarette
5%

กระดาษ
Paper
6%

หลอด
Straw
7%

เชือก
Rope
8%

ฝา หรือ จุก
Plastic cap
10%

ถุงพลาสติก
Plastic bag
16%



กรมทรัพยากรทางทะเลและชายฝั่ง กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม

Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment



Special ASEAN Ministerial Meeting on Marine Debris Bangkok, Thailand, 5 March 2019





Land to SEA Waste Management





Dolphin World
Nemo Phuket



Department of Marine and Coastal Resources
Ministry of Natural Resources and Environment



Tel. +66 2141 1300
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THAILAND



WASTE and

PLASTIC Waste

Roadmap

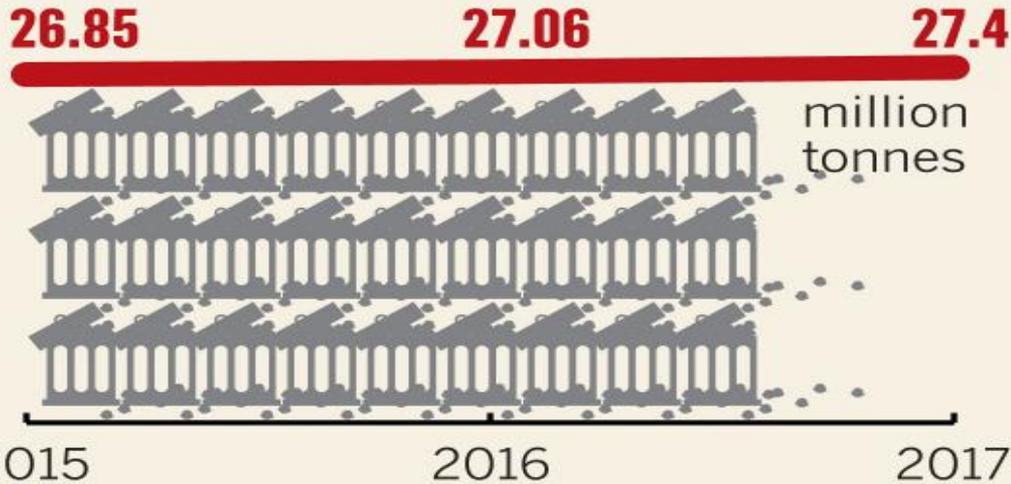




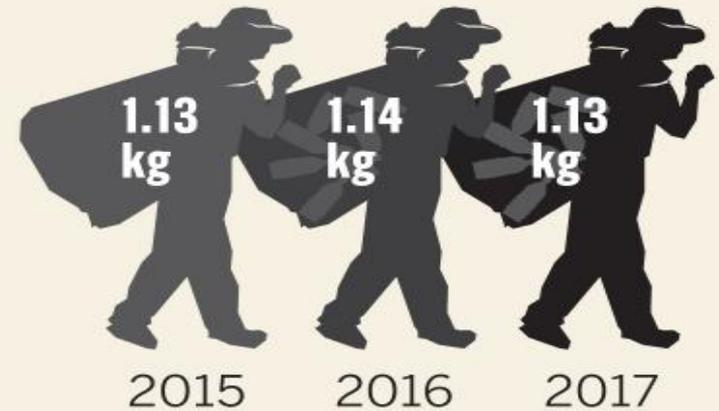
Thailand Waste Situation



Total household garbage generated



Per head household garbage generated



Garbage management in 2017

Recycled or reused

8.52 million tonnes

Properly disposed

11.70 million tonnes

Improperly disposed

7.18 million tonnes

Agencies responsible for household garbage management

- 5,731 local administrative organisations (354 clusters)

Permitted garbage disposal methods

- Burying in secured landfill
- Producing biogas
- Burning for power
- Manufacturing fuel from waste
- Other clean and secured methods



Waste Management Action Plan with Civil State



The Nexus Clean City and Happy People Action Plan (Approved by the cabinet on the 20th September 2016)



approve of agreement under the government on 20 September 2016

Hazardous waste situation 0.58 m. ton

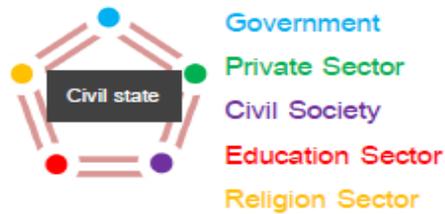
generated Per capita 1.13 kg/day

vision Joining hand in hand in proper waste management for better quality of life & environmental friendly towards green & happiness city

Government policy
NCPO approve on 26 Aug 2014 → SWM Roadmap
NCPO approve 19 Aug. 2014
Gov. approved on 12 May, 2015
Gov. approved on 16 June. 2015
MOI: Country's SWM Key Agency
Gov. approved on 3 May 2016 → SWM country master plan
Gov. approved on 20 Sep 2016 → Zero Waste Master Plan
Zero waste Action Plan

Basic principal

3R eduse ลดการใช้
euse ใช้ซ้ำ
ecycle แปรรูป



Civil state implementation strategy will bring all sector to participate in waste reduction & separation at source which follow 3Rs principle

4 Framework

Focus on waste management at source; waste reduction & separation including efficiency waste collection

Goal

- 1 Reduce 50% of community waste go to disposal site
- 2 100% of totally Community establish the hazardous waste collection center
- 3 70% of industrial waste & 85% of infectious waste was proper dispose increasingly

Measure

- 1. SWM at source
- 2. SWM inter-media
- 3. consciousness and sustainable behavior
- 4. Data base system

Solid waste situation

Solid waste generated 26.85 m. ton

Municipal collection 15.49 m. ton

Municipal 3R benefit

4.94 m. ton

Sanitary disposed 8.29 m. ton

Infectious waste 52,147 ton

Industrail hazardous waste 2.06 m. ton



PLASTIC WASTE IN THAILAND



Thailand is the world's 6th biggest contributor of ocean waste.

8

Plastic bags per
day per person

=



500
million

Plastic bags
are used per day



Source: Department of Environmental Quality Promotion

571,000 tonnes

of plastic waste was
imported to Thailand in 2018

Source: Customs Department

2.7
million
tonnes

total plastic waste was
produced in a year

or 7,000 tonnes per day in 2018

Source: Pollution Control Department

50,000 tonnes
or 750 million plastic items

ended up in the seas
in 23 coastal provinces in 2018

Source: Department of Marine and Coastal Resources

Thailand's Roadmap on Plastic Waste Management 2018 - 2030



: on Plastic Waste Management 2018 - 2030 is a holistic policy approach for managing plastic waste in Thailand for related organisations to use as a framework for preventing and solving plastic waste problems in Thailand

Vision Moving Towards Sustainable Plastic Management by Circular Economy

Target 1 Reduce and replace some single use plastic by using environmentally friendly products



Target 2 100% target plastic waste to circular economy



Thailand's Roadmap on Plastic Waste Management 2018 – 2030

Target 1

Reduce and stop using single-use plastic targets by replacing with environmental friendly products

Target 2

100% of target plastic waste to Circular Economy

- Adopted "Bangkok 3R Declaration towards Prevention of Plastic Waste Pollution through 3R and Circular Economy"
- Adopted "Bangkok 3R Declaration on Combating Marine Debris in Asean Region"
- Develop plastic waste recycling system through circular economy

Stop using in 2019

- Cap seal
- Oxo
- Microbead



2019

0.5 million tons utilization

2 million tons or 12% of the total waste generation

1.5 million tons disposed by landfill or incinerator

Partially remain in Environment

2030

SDGs

- Summary of implementation in according to SDGs
- Continuously working to meet the target of Roadmap
- Law enforcement on plastic waste management

2028
2029

2027

Phase 3

100% of target plastic wastes will be recycled by applying Circular Economy Principle



- Reducing and stop using other single-use plastics

2023
2026

2022

Phase 2

Stop using in 2022

- Develop guidelines/ requirements/ standard for environmental friendly plastic products

- Plastic bag < 36 micron
- Foam food container
- Plastic cup < 100 micron
- Plastic straw

- Monitoring, evaluation and review Roadmap and Action Plan
- Develop recycling plastic waste system through circular economy

- Establish Subcommittee/Working groups
- Develop Roadmap for Plastic Waste Management 2018 – 2030



Problems of Plastic Waste in Thailand





1 มกราคม 2563

ห้างสรรพสินค้า ซูเปอร์มาร์เก็ต และร้านสะดวกซื้อ
งดให้ถุงพลาสติกหูหิ้ว



Start on 1st January 2020



No Plastic BAG ►► Bring Your Bag

- Logos of participating retailers and partners:
- CENTRAL, R, Tops, FamilyMart, baan, B2S, emg
 - Office Mate, Watsons, TEMPORIUM EM QUARTIER PARAGON BLUPOINT, HOME FRESH MART, TESCO Lotus, makro
 - CPALL, 7-Eleven, SPAR, ISETAN, HomePro, livingmall
 - TMK, JSSRU, LAWSON 100, FN, COL
 - SIAM Takashimaya, Loft
- คุณภาพสิ่งแวดล้อมคือคุณภาพชีวิต
#CampaignDEQP กรมส่งเสริมคุณภาพสิ่งแวดล้อม



Department of Environmental Quality Promotion

49 Rama 6 Soi 30, Phayathai, Bangkok, Thailand 10400

Tel. +66 2278 8400 ext. 1405 www.deqp.go.th



Pollution Control Department

MNRE Phayathai, Bangkok, Thailand 10400

Tel. +662 298 2000 www.pcd.go.th



Thailand

Bangkok Metropolitan's Climate Change Master Plan





Scope of Bangkok Climate Change Master Plan



5 sectors:

- ✓ Environmentally Sustainable Transport
- ✓ Energy Efficiency and Alternative Energy
- ✓ Efficiency solid waste management and wastewater treatment
- ✓ Green Urban Planning
- ✓ Adaptation Planning

Transport



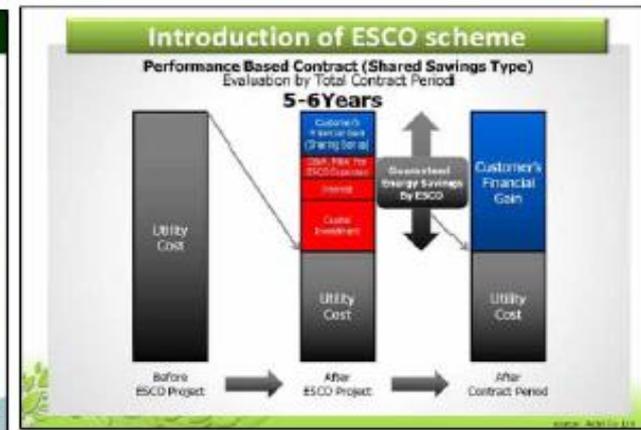
Development of bikeway

Waste management



Promotion of Waste separation

Energy efficiency



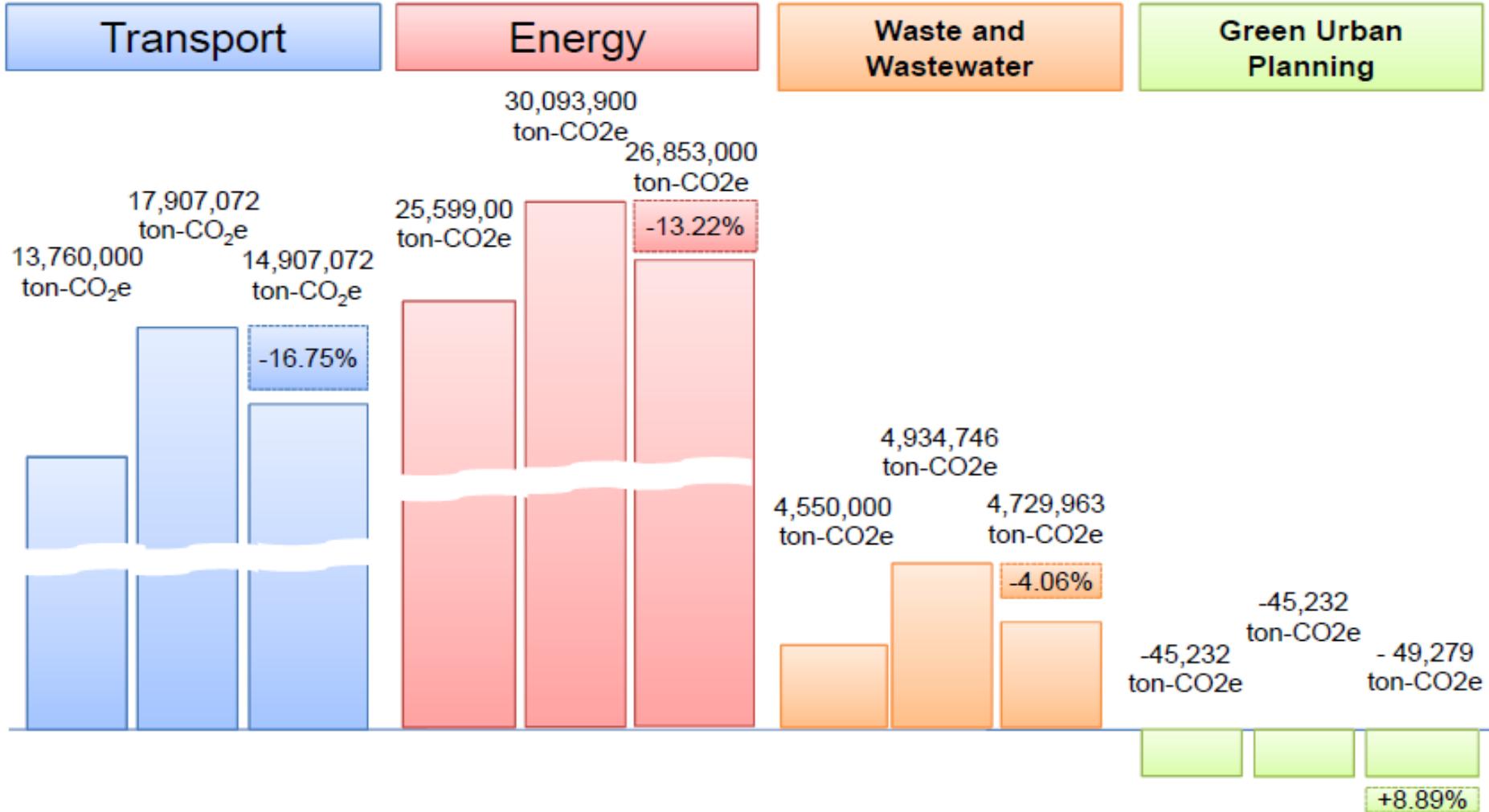
Promotion of ESCO business



Bangkok BAU Emission and Mitigation Targets in 2020



2013 Emission | 2020 BAU | 2020 Target





Bangkok Metropolitan Administration

173 Dinso Road , Phra Nakhon District

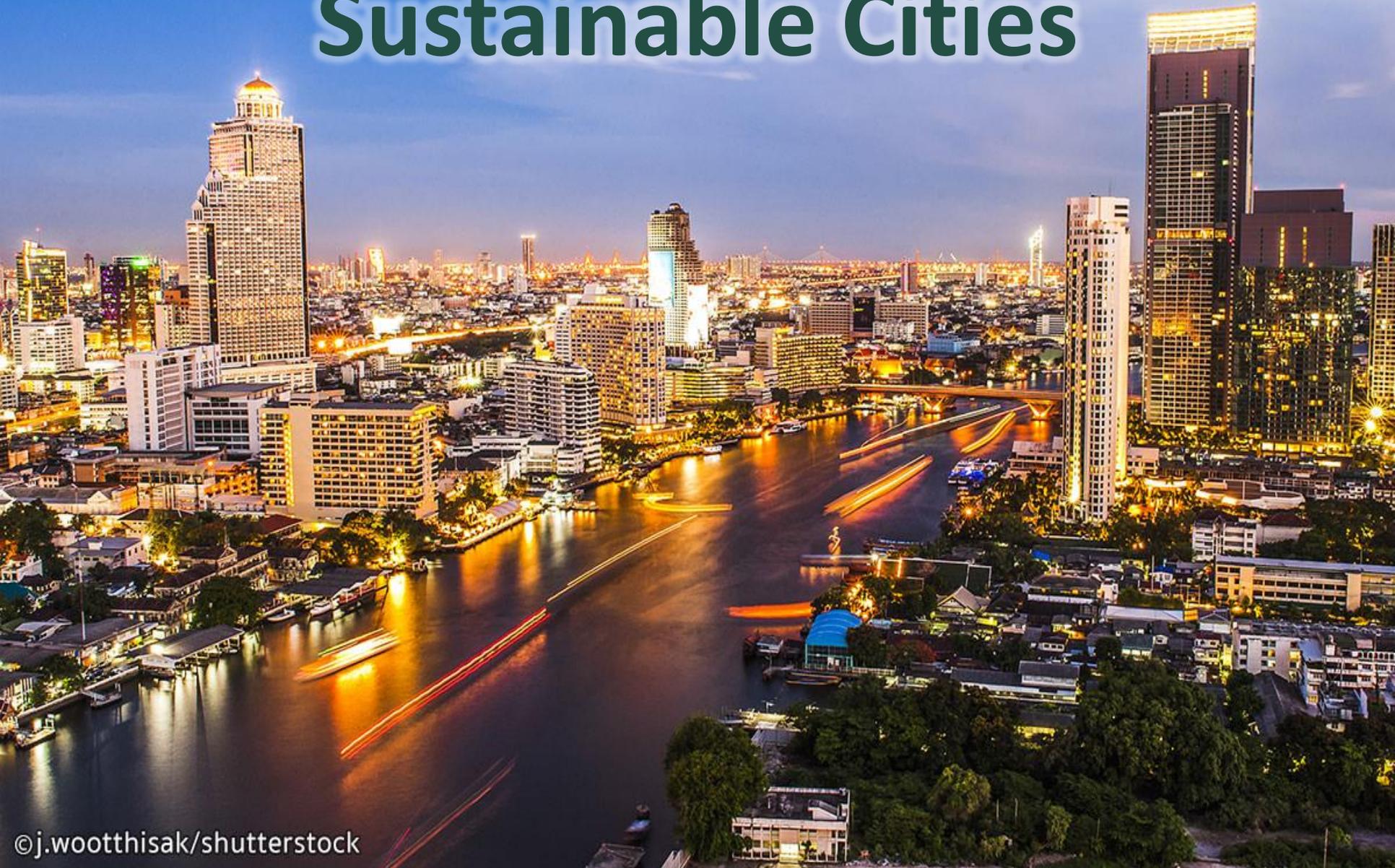
Bangkok 10200, Thailand Tel. +662 221 2141



www.bangkok.go.th

Thailand

Sustainable Cities



City Implementing Process

III. Up to the Level of ASEAN Environmentally Sustainable City Model Cities

Develop and Upgrade the capacity of environmental management programme to the model city in ASEAN level reaching an international standard.

Develop the international partnership on environmental management.

II. Develop Tools and mechanism for moving towards environment sustainable city

Developed a criteria in evaluating the city development status which is the tools and mechanism in moving towards the environmental sustainable city.

Develop and promote the provincial mechanism for environmental sustainable city.

I. Public Participation Promotion and networking

- Promote public participation and networking with related multi-partner in local environmental management through a local development plan as a tool.
- Capacity building on sustainable environmental management to the local administration and related parties.
- Summarizing the facts and acquiring lesson learn for further improvement.
- Project Expansion.





Department of Environmental Quality Promotion

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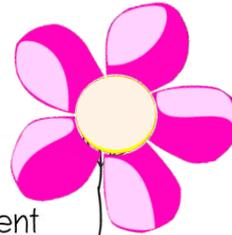


Action for Climate Empowerment



Systematic Management
More Green Areas

Sustainable City



Reduce Reuse Recycle
Garbage Separation



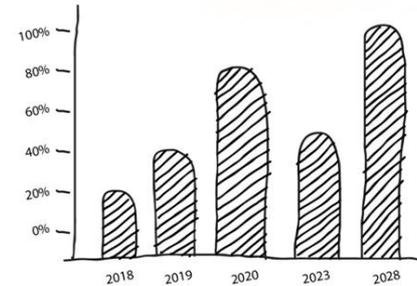
Keys to SUCCESS
for GHGs emission reduction

Waste Management



Support and Use Green
Product and Service

Green Consumption



A

C

E



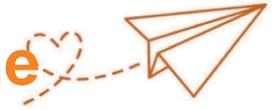
Low Carbon and Resilience to Climate Change Society

Environmentally Friendly

- ⚙️ Awareness
- ⚙️ Mindset
- ⚙️ Way of Life



Accelerate Action and Outcome



ACE : Action for Climate Empowerment Implementation Plan

Formal and Non-formal Education

Strengthen Capacity

Social Communication

Join Network and Collaboration

Fill Gap and Need
 Build on for Development
 Match to Target Group
 and Area Based Approach



Thailand : Low Carbon and Resilience Society

Diffusion of low-carbon technology is necessary to achieve a Thailand's low-carbon society.

In order to mitigate the emission to a lower level, many sectors are involved; such as the residential sector, energy efficient buildings, energy efficient industry and fuel switching, and fuel substitution in the transport sector and electricity generation sector.



THAILAND'S SUSTAINABLE HOUSE

- Safety
- Wind Power
- Water efficiency
- Hydrogen Car
- Hybrid Car
- GHG Reduction
- Solar Power
- Rooftop Garden
- Recycle
- Cost saving
- Worm Composting





A C E
ACTION FOR CLIMATE
EMPOWERMENT



Action for Climate Empowerment Thailand National Focal Point

Department of Environmental Quality Promotion
Ministry of Natural Resources and Environment

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