



Carbon Reduction as a National Co-Benefit:

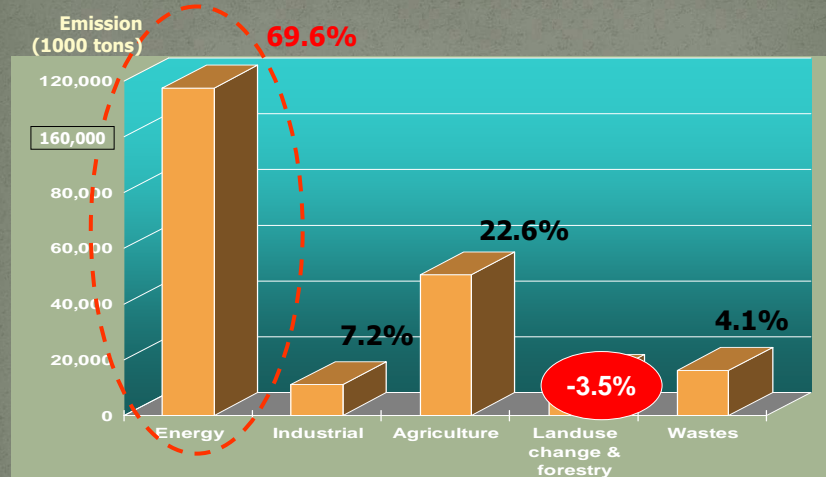
A Better Life in Low Carbon City



องค์การบริหารจัดการก๊าซเรือนกระจก
(องค์การมหาชน)

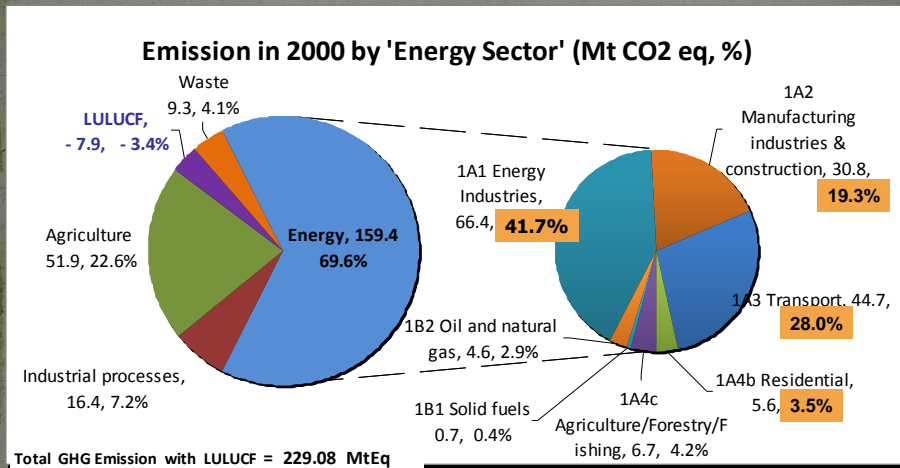
*Thailand Greenhouse Gas Management
Organization (Public Organization)*

Thailand GHG Emission in 2000 ~ 229.08 MtCO₂e

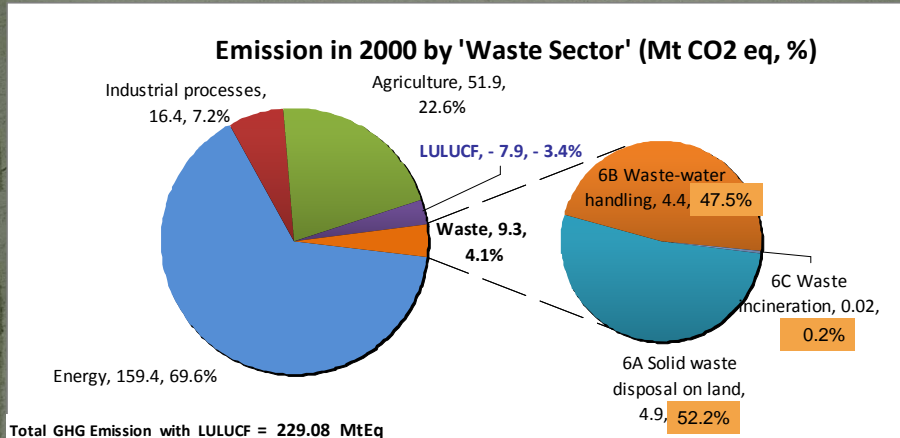


Sources of emission by sector

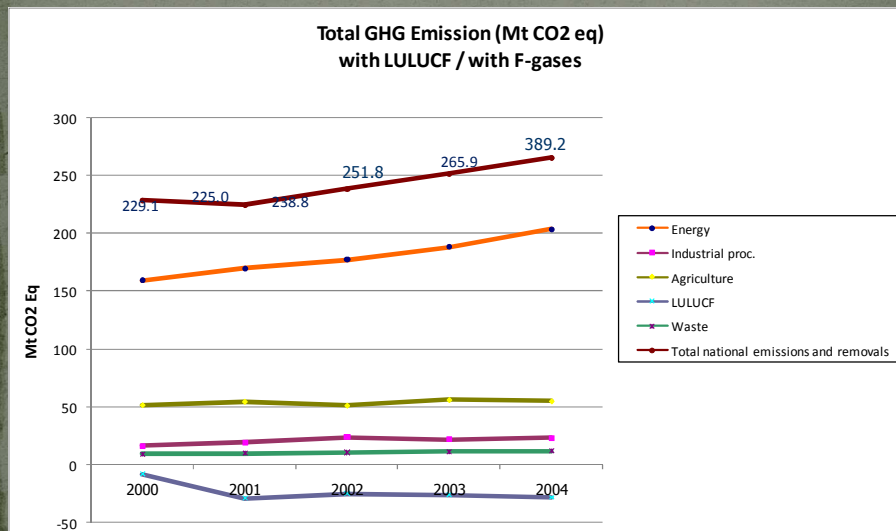
Emission in 2000 of Energy Sector (Mt CO₂e, %)



Emission in 2000 of Waste Sector (Mt CO₂e, %)



Thailand GHG Emission in 2004



Copenhagen Accord, Nationally Appropriate Mitigation Actions (NAMA), Measurable, Reportable and Verifiable (MRV)

- Copenhagen Accord: Developing countries commit to reduce GHG, even no target.
- NAMA: National mitigation policy and plan by means of technology, financial, capacity building.
- **Low Carbon City Program as a mitigation measure in NAMA**



Low Carbon City :

What the City can do for the better !

- **Energy Saving:**

- Household activities
- Fuel saving in Traffic and non-car transport
- Renewable Energy



- **Waste management:**

- Solid waste and night-soil
- Waste recycle



- **Urban Forest:**

- Public area
- Household area



Carbon Reduction : **Save Energy, Save Money**



Energy Efficiency Stove



Shifting to Rail / NGV or Bio-fuels



Tricycle replacing motorcycle with improving technology

Changing light bulbs to energy saver



Carbon Reduction products



Traffic Re-routing



Carbon Reduction : **non-car transport to** **Save Energy, Save Money**



Bike lanes: to
schools, govt.
offices, parks,
recreation /
tourist spots,
others.

Bicycles:
available for
free or rental
services.

Walk If You Can: Non-car transportation, **a city for walking about**



Carbon Reduction: Having their own energy

SOURCES to lower the electricity bill of their own community



Carbon sequestration : Planting tree helps reducing dust and shading the environment in town



Carbon Reduction: Waste management to produce energy, fertilizer, animal feed, and income from recycle.



Carbon Reduction: The city can provide and promote Vocational training on low carbon products.

- **Organic Food,**
- **Garden design, plant nursing, organic fertilizer,**
- **Design and making recycling furnitures and products,**
- **Electrical goods repairing technician,**
- **Design and construction of green-building,**
- **Making energy-saving stoves,**
- **Others**

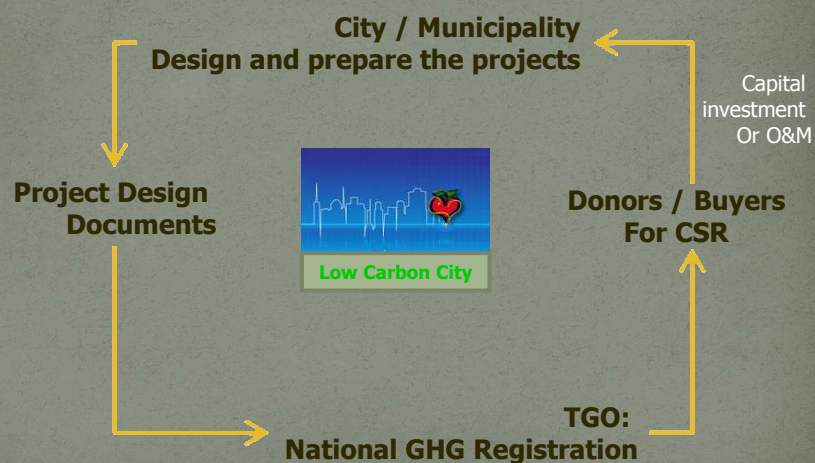


Carbon Reduction of SMEs in the city: by means of cleaner production – **reducing energy, water use, and wastes to lower running cost and gaining higher income.**

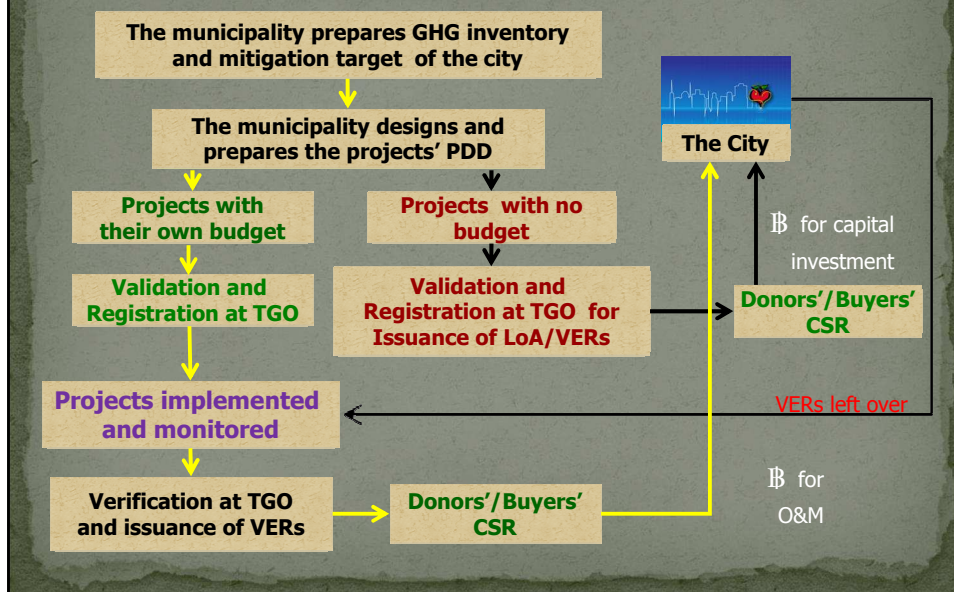
**Providing
Cleaner Production and
Eco-efficiency program to
SMEs: technical and finance**



Introduction of VER Trading Scheme for LCC Program



The Cities' VER process



Standards & Methodologies to mitigate GHG

Bike Lane

CS:LCC 7853 – X

- average emission from every kinds of vehicle in the city /person/km. (a)
- number of persons expected to use the bike-lane /day or month or year (b)
- length of the bike-lane (c)
- Carbon reduction = $a \times b \times c$



Crown Standard series (methodologies)

- **CS:LCC 7853 – 1: Energy Saving**
- **CS:LCC 7853 – 1a:** *Changing light bulbs*
- **CS:LCC 7853 – 1b:** *Energy saving stoves*
- **CS:LCC 7853 – 2: Renewable Energy**
- **CS:LCC 7853 – 2a:** *Solar Power*
- **CS:LCC 7853 – 2b:** *Wind Power*
- **CS:LCC 7853 – 2c:** *Others*



CS:LCC 7853



Crown Standard series (methodologies)

- **CS:LCC 7853 – 3: Transportation**
- **CS:LCC 7853 – 3a:** *Mass transit - Rail, Bus*
- **CS:LCC 7853 – 3b:** *Bike Lane and/or Side-Walk*
- **CS:LCC 7853 – 3c:** *others*



CS:LCC 7853



Crown Standard series (methodologies)

- **CS:LCC 7853 – 4: Urban Forest;**

Public & household area:

4(a) Public park and other public area,

4(b) Household gardens,

4(c) Vertical gardens

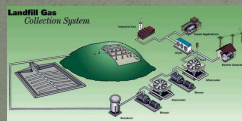
4(d) Urban forest + bike lane

+ side walk (non-car transport)



Crown Standard series (methodologies)

- **CS:LCC 7853 - 5 : Waste management**



5(a) landfills ,

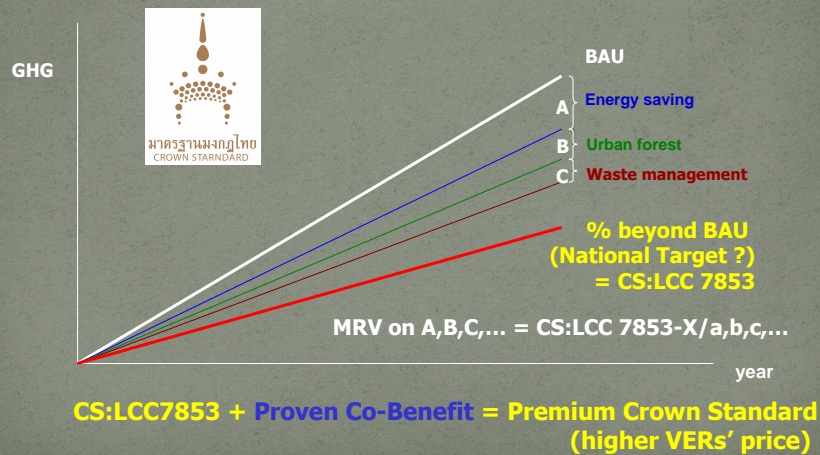
5(b) night-soil treatment.

- **CS:LCC 7853 – 6: SME's GHG reduction;**

Saving energy from grid, Reduction of fossil fuel, and Reduction of waste from production process .



Low Carbon City Standard

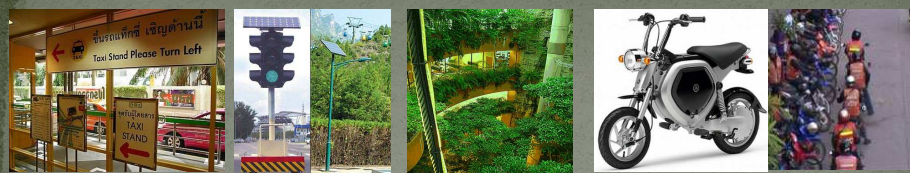


Capacity Building on MRV is the priority

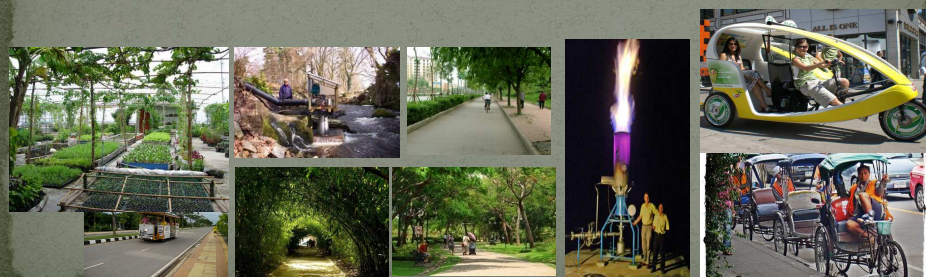
- **M (Measurable)** = methodologies for city GHG inventory and reduction (before and after),
- **M (Monitoring)** = manual to collect monitoring / activities data,
- **R (Reportable)** = manual to report (format/template),
- **V (Verifiable)** = system to verify (who and how to verify ?)



Better Life in Low Carbon City



Modern Low Carbon City Or Self-Sufficient Low Carbon City





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