Local Inventory to support Low Carbon City

Sirintornthep Towprayoon
Joint Graduate School of Energy and Environment
Center of Excellence on Energy and Environment
King Mongkut's University of Technology Thonburi

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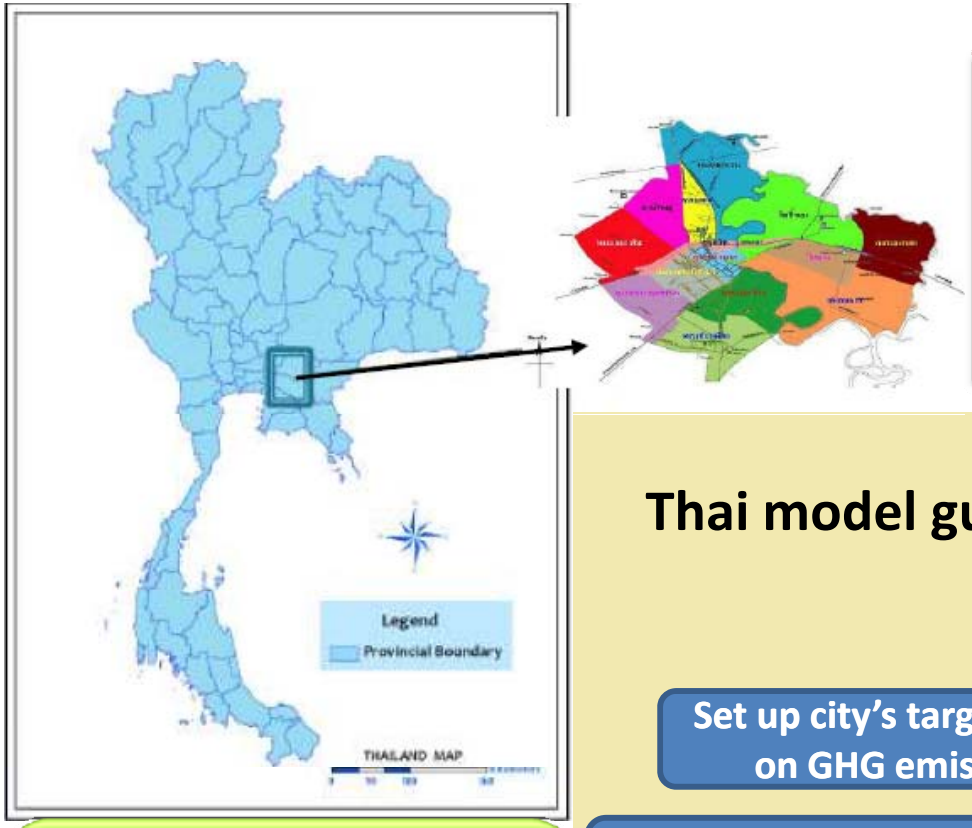
- Used of inventory is not limited to national level
- Local government. City and municipality can be benefit from inventory in term of policy analysis

Muangklang Municipality

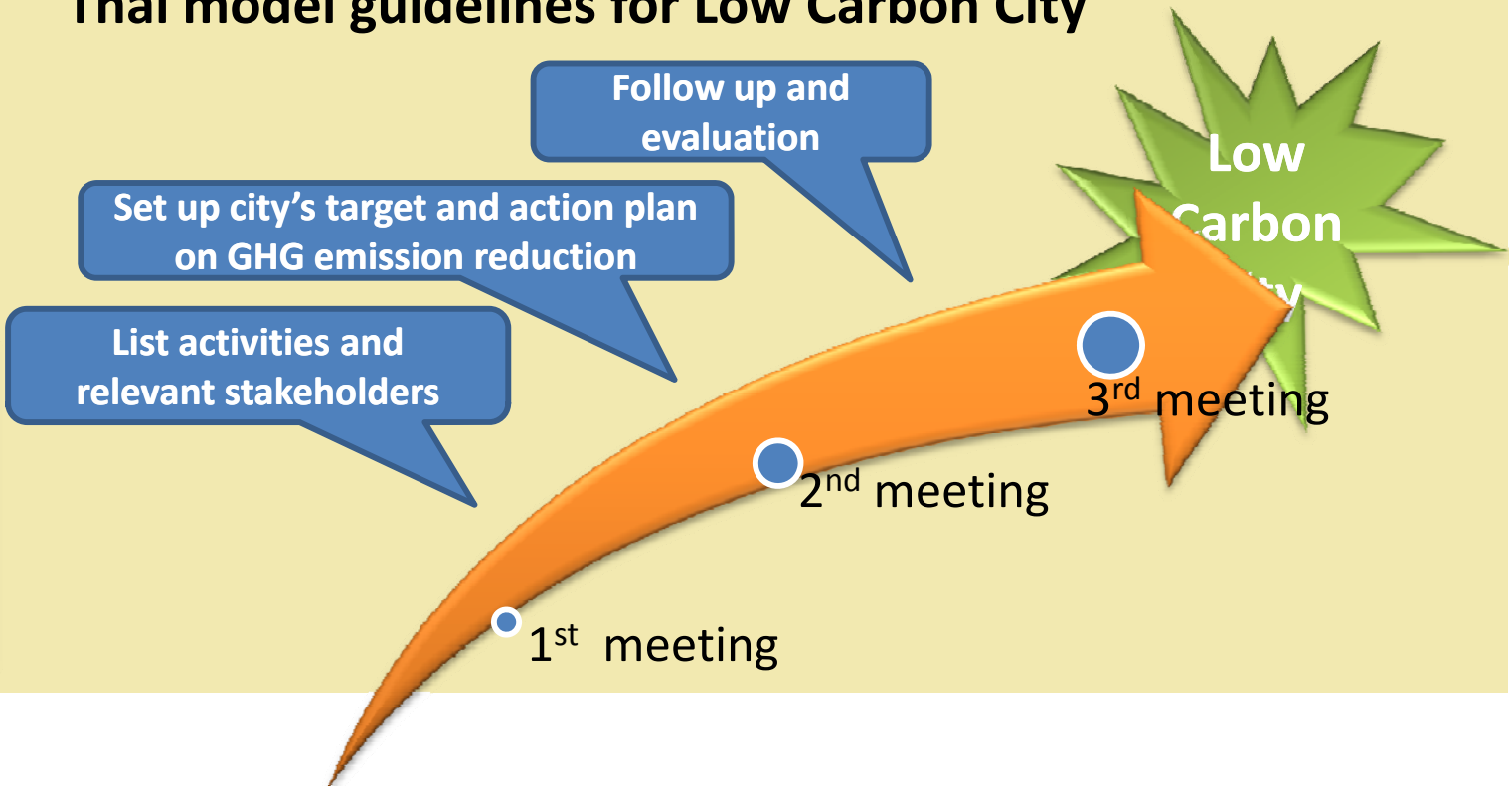
is a small-size municipality located in Rayong province



Objective : Develop Muangklang Municipality as a pioneer small-size municipality towards low carbon city approach, and enhance the city's good practice as a replication in other cities

City area : 14.5 km²
Population : 17,197
Households : 3,309
Communities : 13

Thai model guidelines for Low Carbon City



Framework of Study

Literature review and site survey

1

Literature review
- GHG inventory
- Low Carbon city
- Case study of LCC (best practice)
- etc.

Base year inventory

Basic data collection and analysis
- Meet with local government
- Define key source categories of GHG emissions
- Investigate city planning
- Review city development plan

GHG Emission Inventory

2

GHG Emission Inventory
- Transportation
- Building and Residentials
- Industry
- AFOLU
- Waste

Set meetings and workshops
- Activity and related emissions
- Mitigation options
- Targets setting
- Roadmap/Implementation plan

Targets and plan to mitigate GHGs

3

4 **Development of methodology and implementation plan to low carbon city**

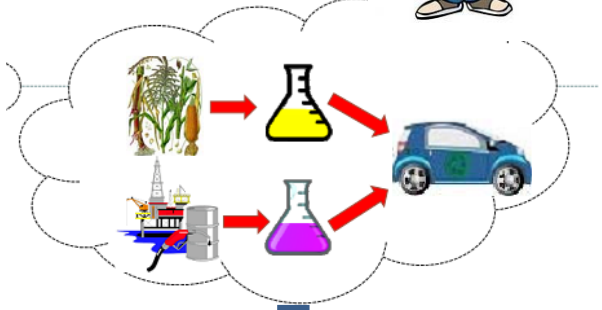
Thai model guidelines for Low Carbon City

9 Steps-Approach to Thai Low Carbon City

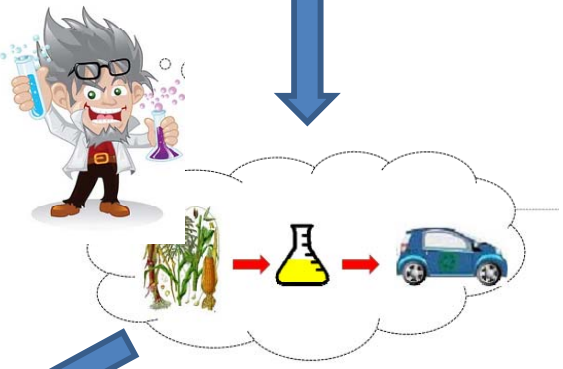
Implementation

1 Survey

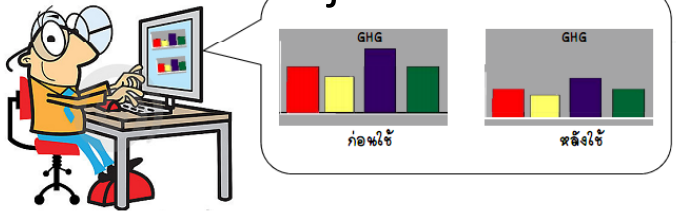
2 Inventory



3Technology selection



4Technology analysis



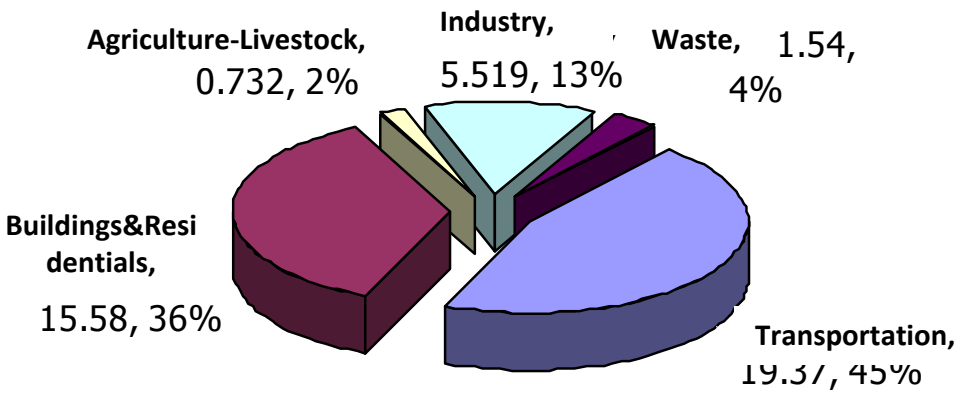
5 Projection

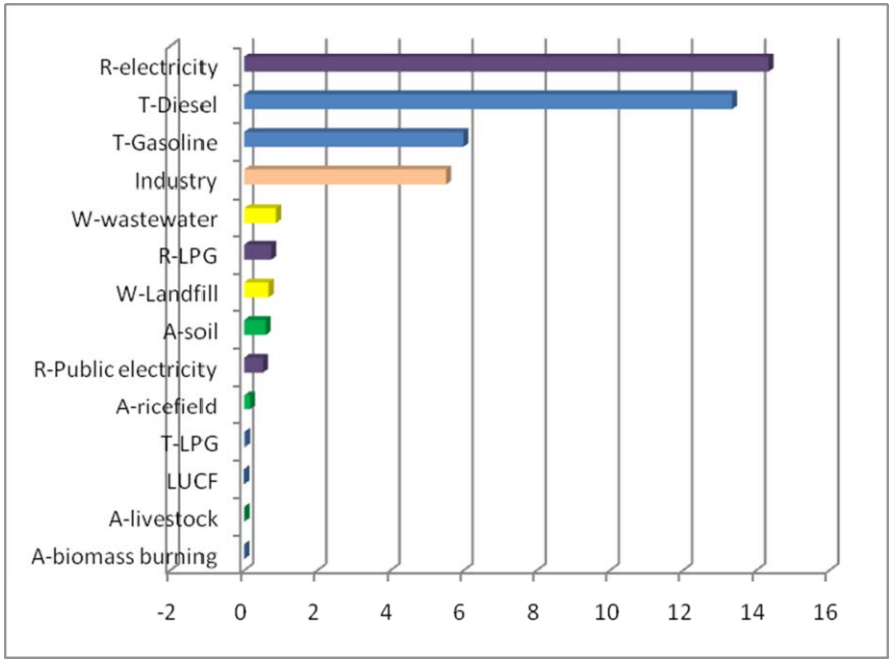
6 Target Setting

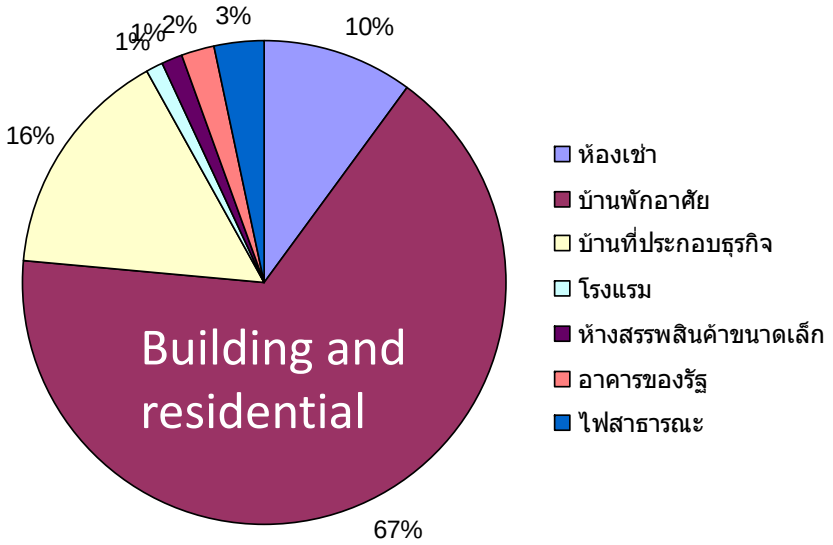
7 Action plan

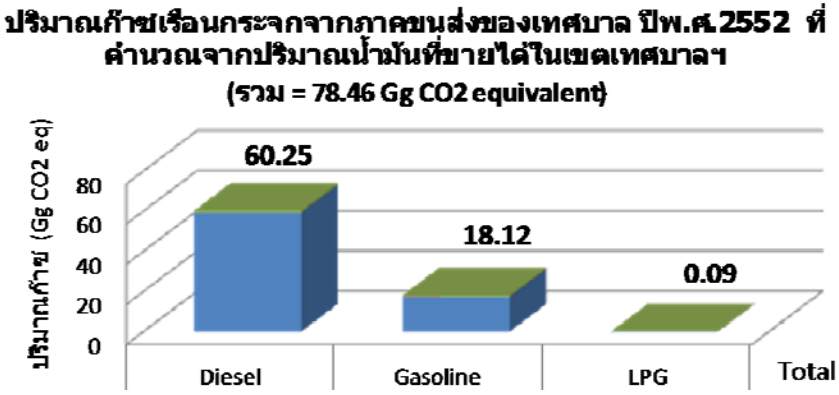
Review

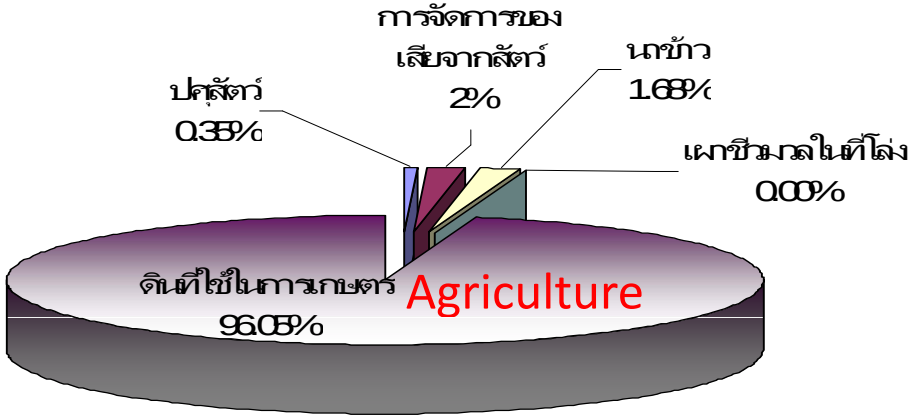
Emissions in the Base Year by sectors ($ktCO_2eq$)







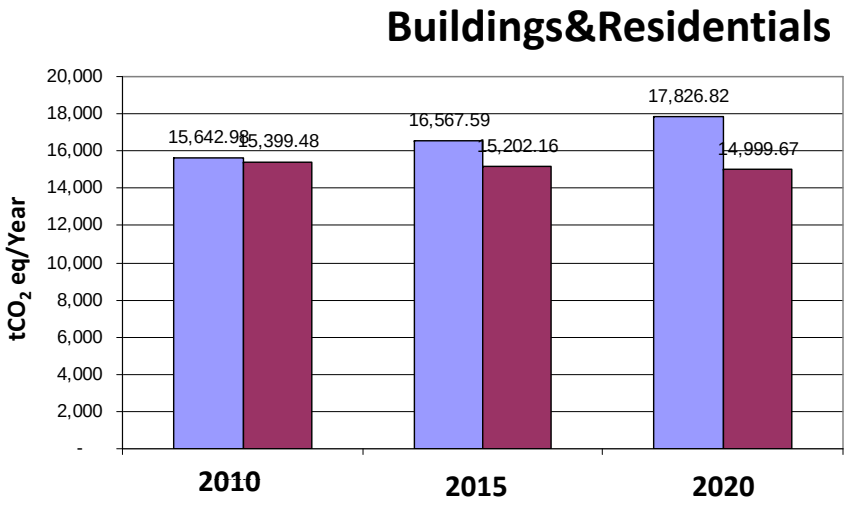


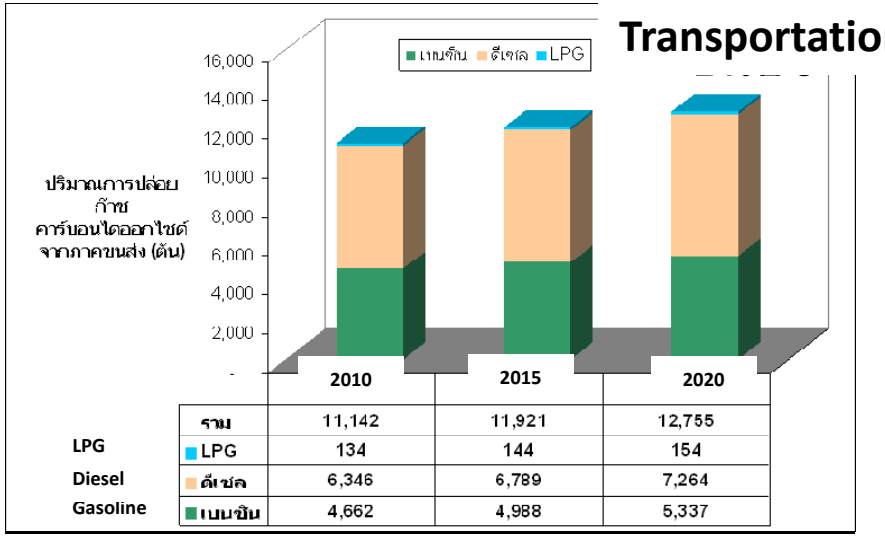


Challenge

- Demand side management
- Energy balance with in the municipality
- Data base development (Activity data)
- Default emission factor
- Data overlap with neighboring

Future Emissions (tCO_2eq)



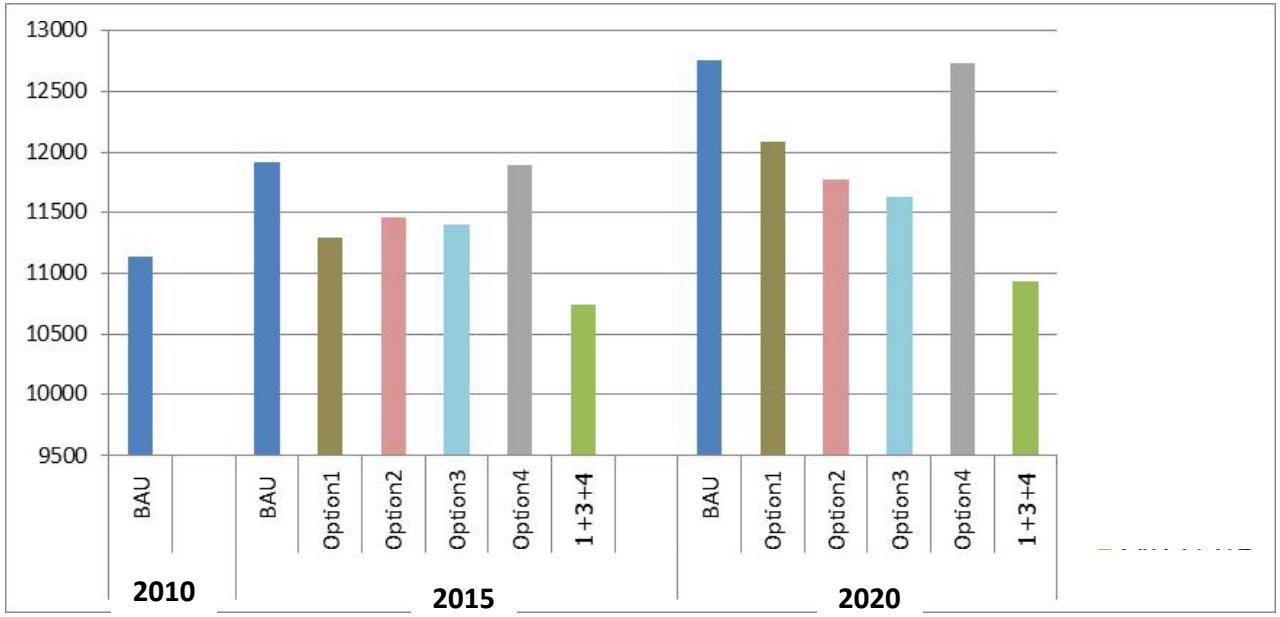


		2010	2015	2020
	รวม	11,142	11,921	12,755
LPG	LPG	134	144	154
Diesel	ดีเซล	6,346	6,789	7,264
Gasoline	เบนซิน	4,662	4,988	5,337

Challenges

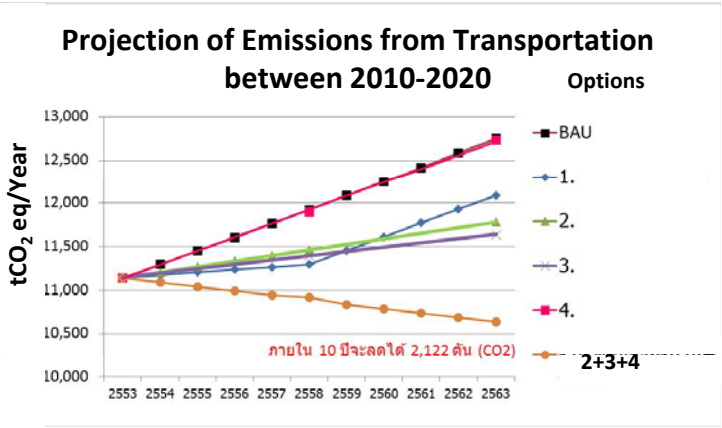
No Historical data
Assumption of the future
Monitoring and measurement
Selection of mitigation options

Measures and Reduction Potential in the Future

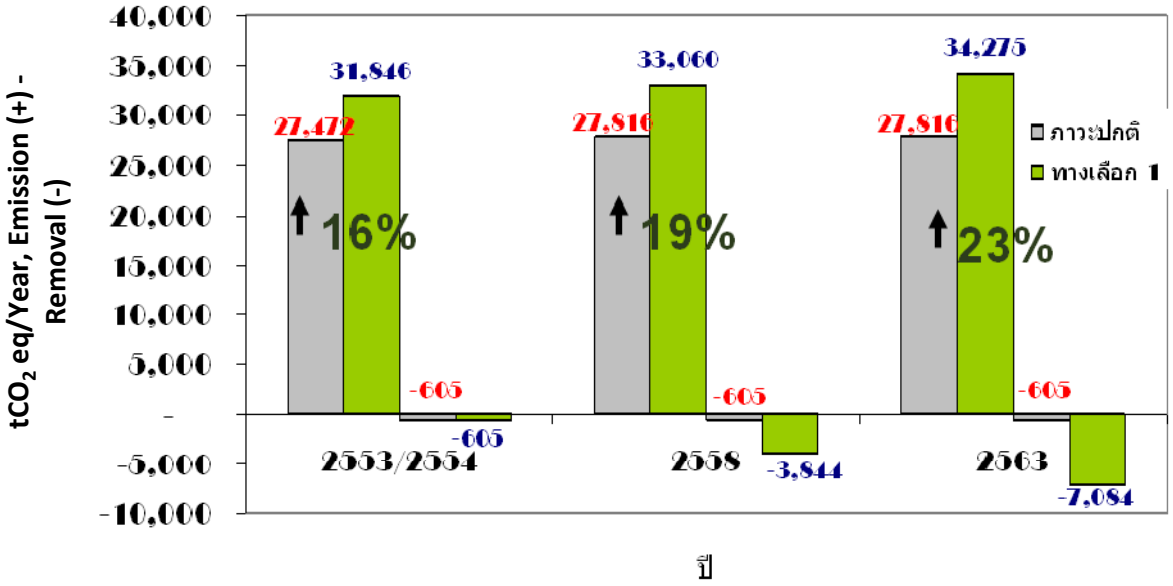


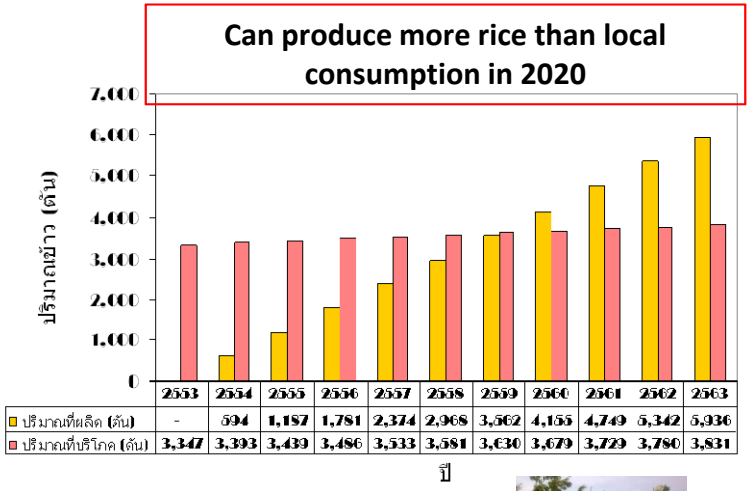
4 Measures in Transportation

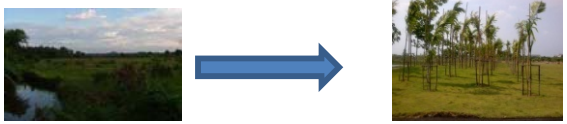
Option 1) Use of Biofuel
Option 2) NGV
Option 3) Use of Bicycle
Option 4) Use of Public City Bus



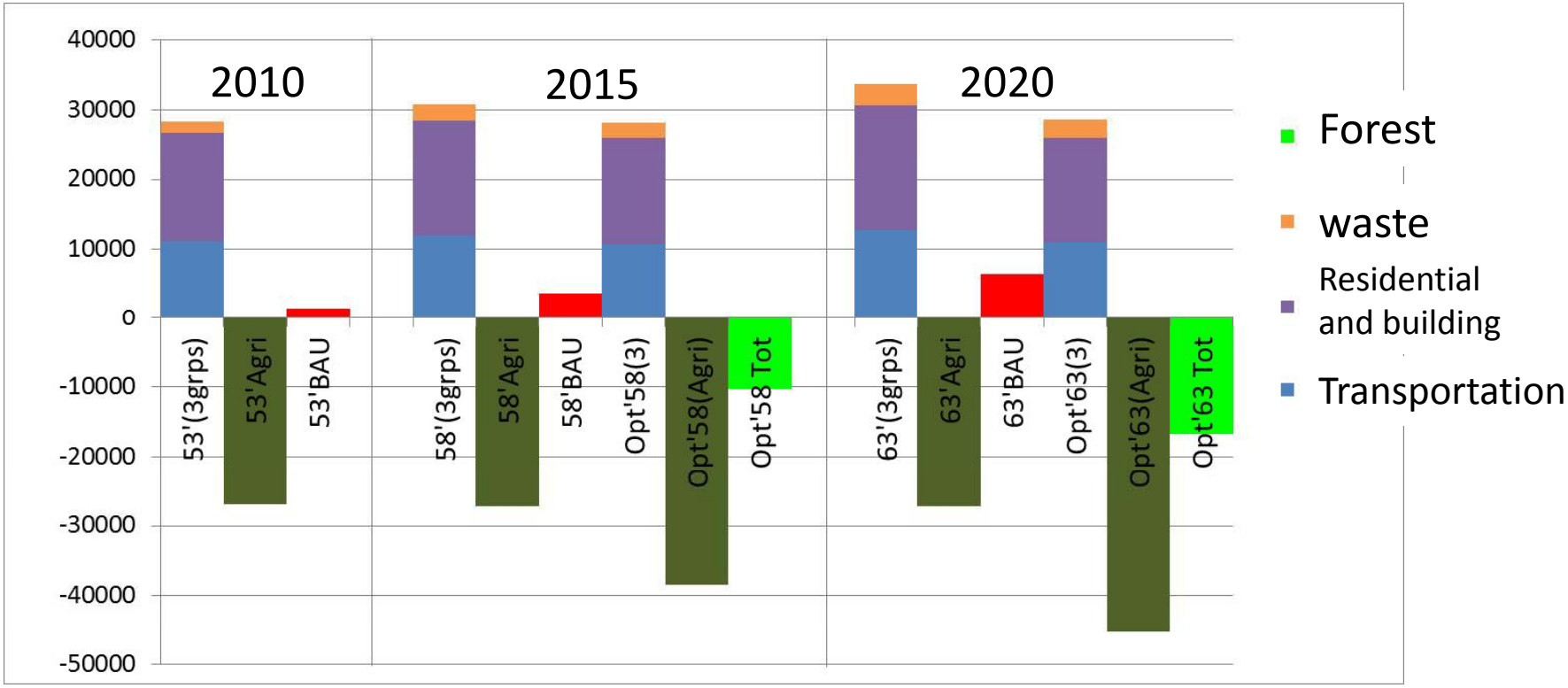
Measures in AFOLU: Rehabilitation of abandoned rice fields of 14.4 km^2 to cultivate rice and of grassland of 1.1 km^2 to plant short rotation trees







Targets Setting towards Low Carbon City



Target setting → **To be zero emission city in the next 5 years**

In the next 5 yrs, Measured-BAU = -154 kg CO_2/cap
In the next 10 yrs, Measured-BAU = -292 kg CO_2/cap

Target setting →

To reduce 100 kg CO_2/cap within the next 5 yrs
To reduce 200 kg CO_2/cap within the next 10 yrs

In the next 5 yrs, Measured-BAU = - 8.6%
In the next 10 yrs, Measured-BAU = - 15.0%

Target setting →

To reduce 5% of emissions from BAU within the next 10 yrs
To reduce 10% of emissions from BAU within the next 10 yrs

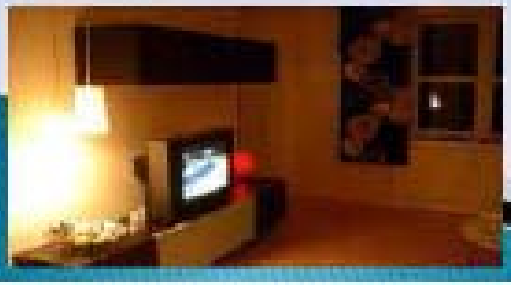
Muangklang Municipality voluntary mitigation goals
(from stakeholders' consultation)

Within 5 years:
Reduce 100 kg CO_2e/capita/yr (5%)

Within 10 years:
Reduce 200 kg CO_2e/capita/yr (10%)

Mitigation measures

Energy saving/efficiency



Reduce fuel use

Transport measures
- Biofuel
- NGV
- Bicycle
- Public bus

Increase greenspace

Waste management

Conclusion

- Inventory is the basis to understand activities within municipality
- Can be use as tool to identify mitigation options and target setting
- Methodology can link to NAMAs and MRV in the future
- Capacity building is essential for local inventory