

City and Community Development towards a Low-Carbon Society at the Local Level

Singhanat Sangsehanat, Ph.D (Project Leader)



Department of Urban Design and Planning,
Faculty of Architecture, Silpakorn University



The Office of Natural Resources and Environmental Policy and Planning (ONEP),
Ministry of Natural Resources and Environment

Low
Carbon
Society

In the fiscal year 2016, the Office of Natural Resources and Environmental Policy and Planning has undertaken the task of setting up projects in order to produce suitable instruments and mechanisms for implementation of policies, plans and strategies for developing cities and communities towards low-carbon societies with the cooperation of various agencies from related sectors. In addition, the Office has also coordinated implementation of action plans at the local level in 3 pilot municipalities, namely, Khon Khaen, Roi Et and Sri Saket municipalities of the respective provinces. The Faculty of Architecture, Silpakorn University, having knowledge, ability and experience in planning, design, and involvement in developing cities and communities, was the consultant in the undertaking.

Starting point

Challenge, problem and issue

Low-carbon society in multi-dimensions of development

Challenge of finding an appropriate development strategy pertaining to the city and community

Problem of a lack of holistic approach in the integration of plans and policies

Inquiry by national policy and local mechanism for implementation

Low-carbon society refers to a society in which most people cooperate in the reduction of carbon dioxide emission in every way or in activities that arise from everyday routine especially the emissions from industrial plants in order to better the quality of life. It is therefore necessary for the people to be conscious of the quality of life in low-carbon environment by using or developing environment-friendly technology; most importantly, it should be a society in which city planning is compatible with a balanced ecology.

The main challenge to achieve low-carbon city and community therefore is a development strategy that involves various dimensions pertaining to the city and community. Such dimensions are: environment, society, economy, culture, and participation.

However, it was found that developing cities and communities lacks a holistic approach in the integration of plans and policies. Therefore there is no interrelated implementation plan at each level. This results in the lack of precise plan for development of personnel, enhancing the role of community leaders, and network for development of low-carbon society.

Developing environment-friendly city relies on policy and development plans as well as paradigm adjustment together with preparation towards a low-carbon society at every interrelated level. Policies need to be drawn up at the national level in order to correspond with the strategies concerning the environment, society and economy that is sustainable at the world and ASEAN levels. At the same time, steering towards low-carbon city and community has to rely on mechanisms for implementation in the cultural, political, and local participation dimensions in the direction of efficient green city, environment-friendly city, and low-carbon society.



Action plans for city and community development towards low-carbon society of Khon Khaen Municipality

Institutional setting

The frame condition and development strategy

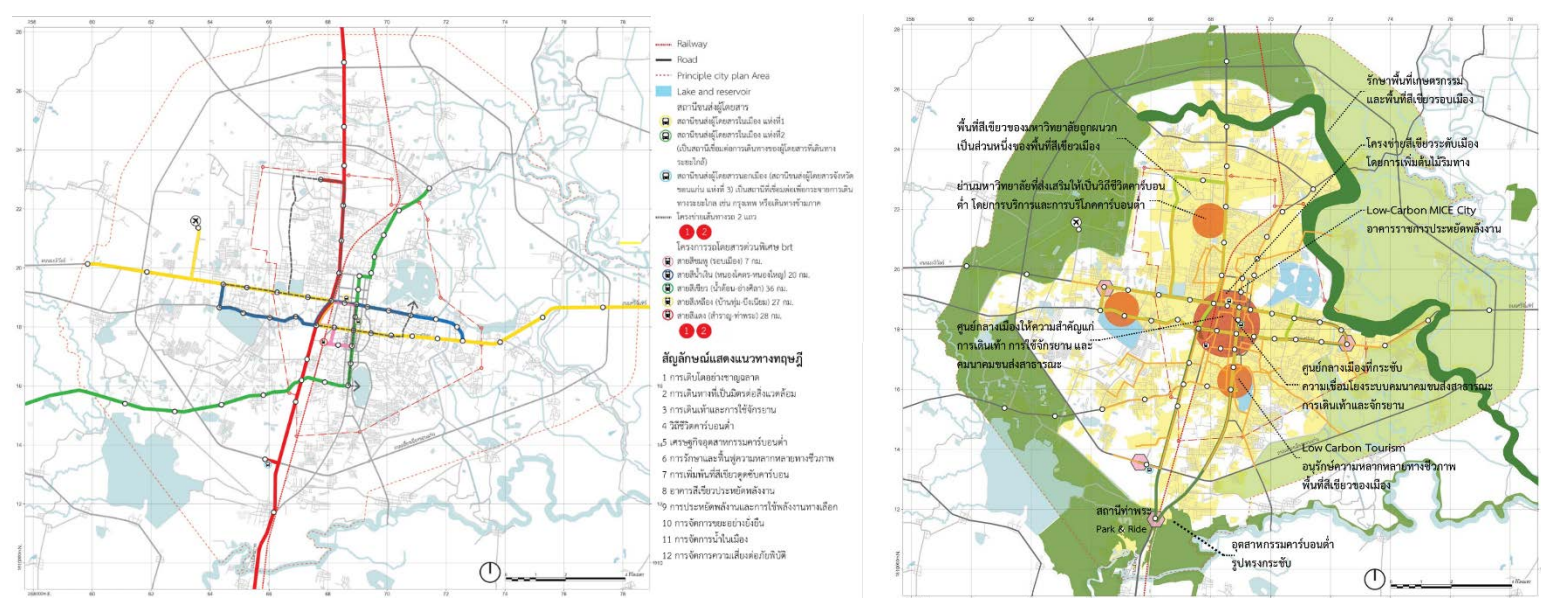
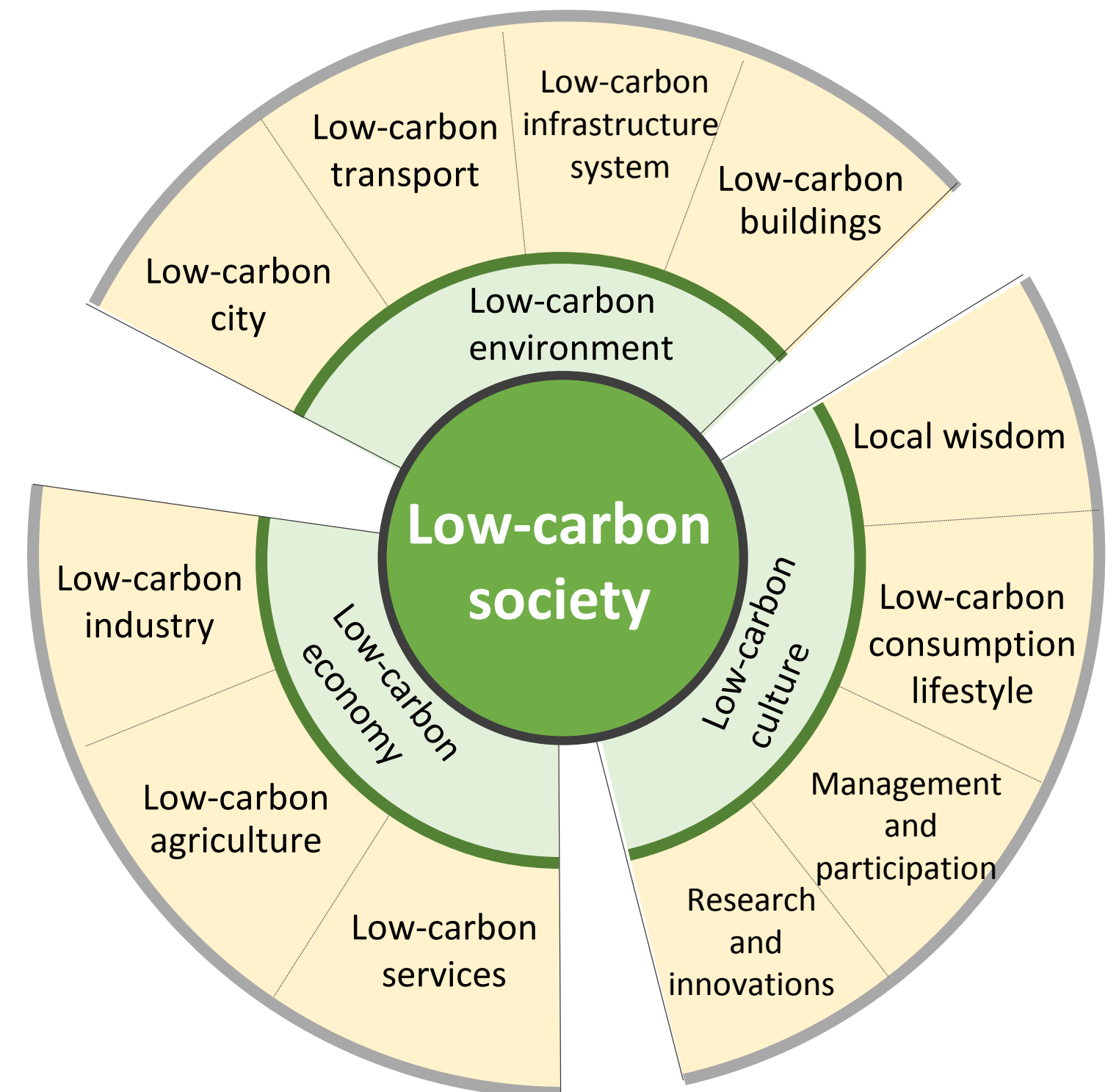
Developing an integrated development strategy to deal with various government sectors and authorities
Formulating a framework for assessing, undertaking and readjusting of implementation

In order to integrate the development directions for different dimensions so that there is a coordinated framework for taking action, the steering mechanisms have therefore been set up under each discipline involved in the development process so as to be in accordance with the scope of responsibilities of each authority, especially those that come under the government sector that are directly responsible. This is also to assist in coordinating the undertaking of other related parties in each field in a holistic manner which is vital to the materialization of low-carbon society. It is also useful for evaluation and assessment of each party's undertakings, readjustment of implementation procedures, as well as coordinating tasks between the various related development disciplines.

Mechanisms involved in steering city and community development undertakings towards low-carbon society are developing low-carbon environment, economy and culture.

Key stakeholders involved in formulating the development strategy are as follows for example

- Office of the National Economics and Social Development Board
- Ministry of Interior
- Ministry of Finance
- Ministry of Natural Resources and Environment
- Ministry of Transport
- Ministry of Energy
- Ministry of Industry
- Ministry of Agriculture and Cooperatives
- Ministry of Education
- National Research Council of Thailand
- Non Governmental Organizations
- Department of Local Administration



The preparation of plans and planning for city and community development towards low-carbon society of Khon Khaen Municipality

Approach

The tool to address the challenge at a local level

Action plans for urban planning and design

Multidisciplinary design frameworks to cope with low-carbon environment, economy and culture

Heading towards low-carbon society involves several dimensions. These need to be considered together with development in relation to each specific locality. For implementation at local level, a key mechanism and tool to coordinate city and community development towards low-carbon society is setting up the action plan in terms of urban planning and design in which social, economic, culture and environment dimensions can be taken into account.

The preparation of plans and planning took into planning and design mechanism at the levels of both macro and city and the specific area; past developments, existing conditions, physical characteristics, social structure, economy and environment, and the directions for future growth are integrated. The action plans for urban development including master plans and perspective for specific area development have been formulated as a tool to steer up implementation processes. The design frameworks for local level are as follows:

Design for low-carbon environment

- Smart growth
- Environment-friendly transportation
- Preservation and revitalization of bio-diversity
- Increase green areas to absorb carbon
- Disaster risk management

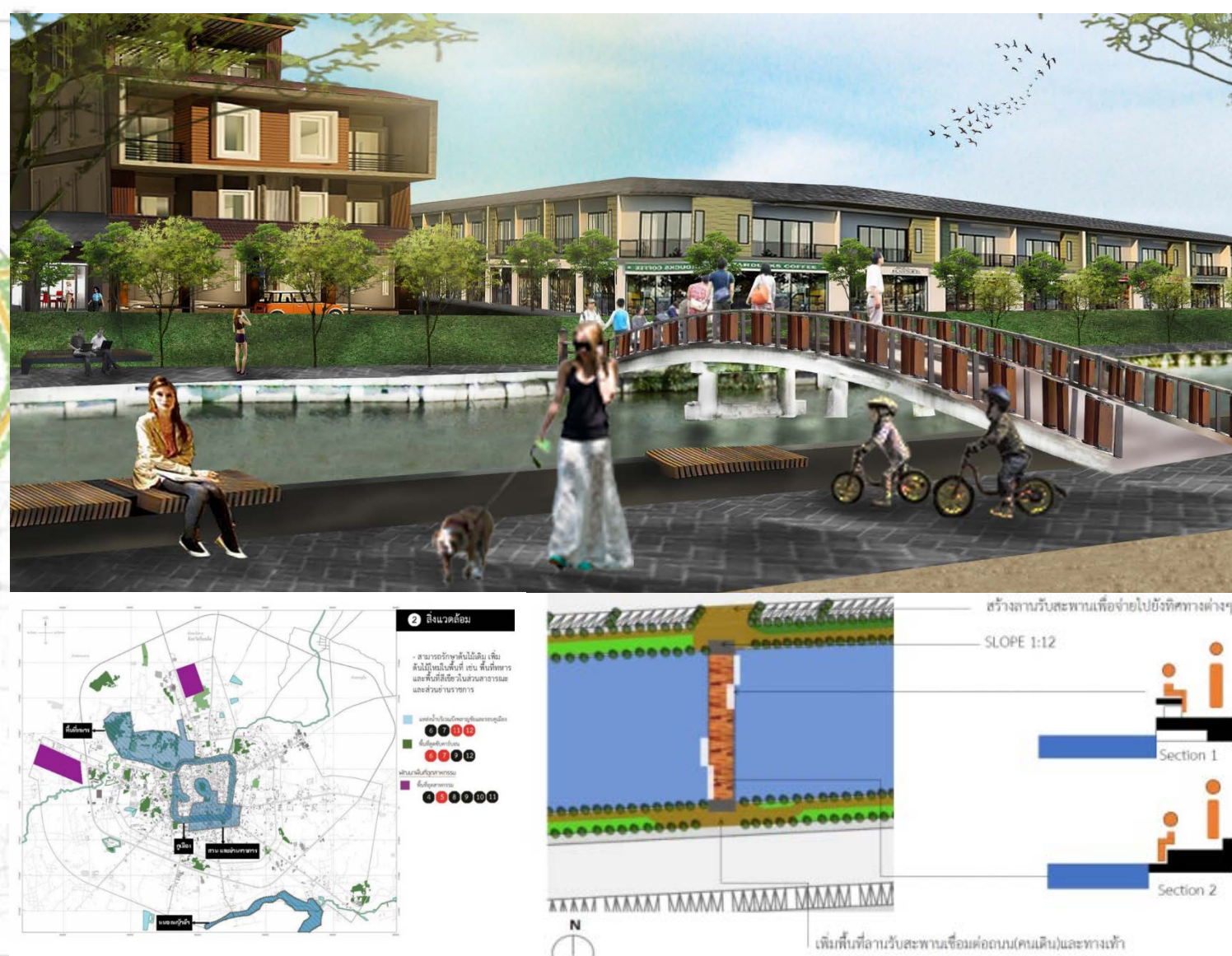
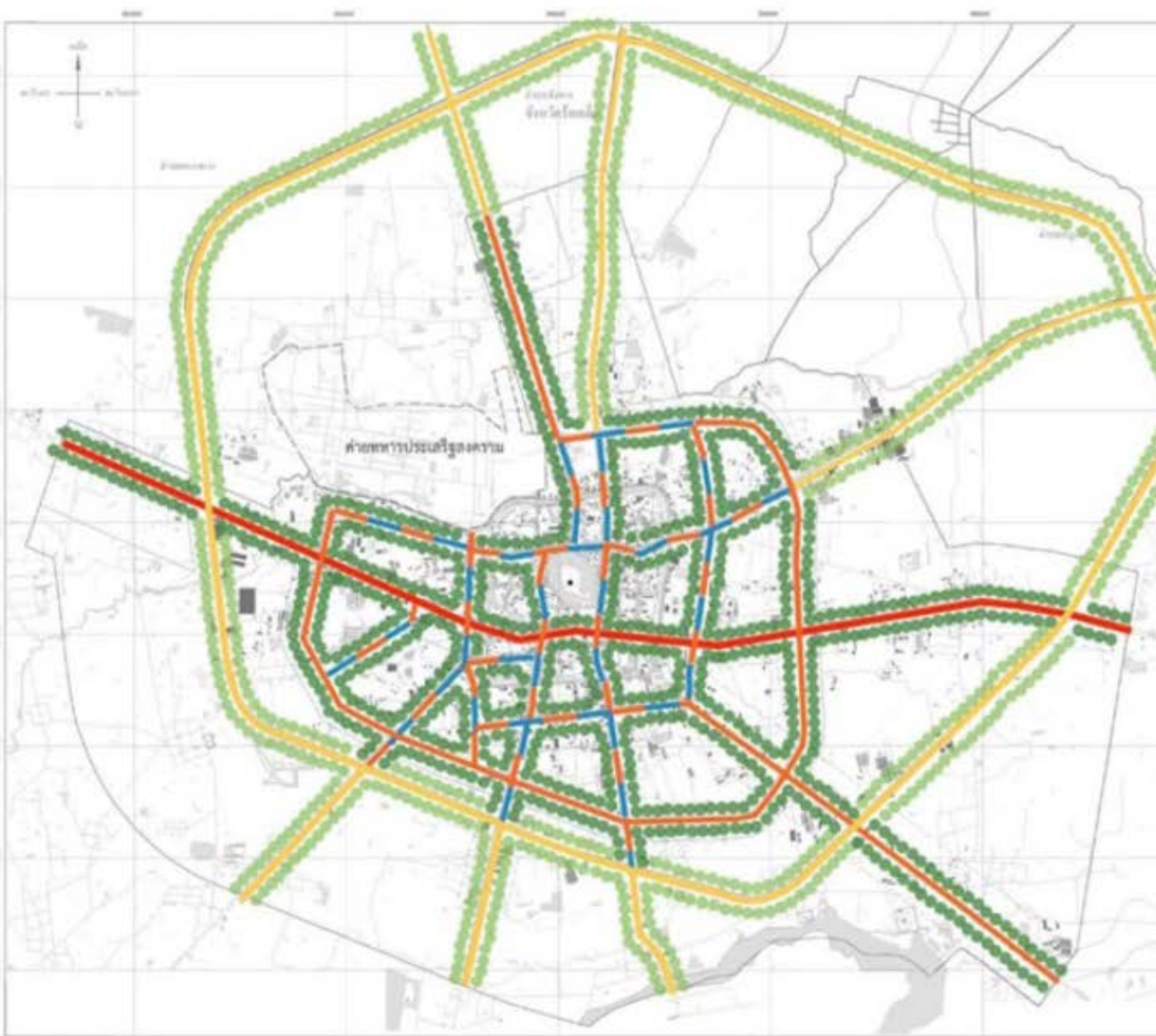
Design for low-carbon economy

- Low-carbon economy and industries
- Energy conservation and use of alternative energy
- Energy conscious green buildings

Design for low-carbon culture

- Low-carbon lifestyle
- Walking and bicycling
- Sustainable waste management
- City water management

The implementation of the action plans has been carried out in 3 pilot municipalities (Khon Khaen, Roi Et and Sri Saket municipalities) located in the northeastern region of Thailand.



Landscape improvement along Khlong Khu Mueang project

Action plans for city and community development towards low-carbon society of Roi Et Municipality

Preparation of plans and planning for city and community development Action plans included in the strategic plans of local municipality

The results are preparation of plans and planning for city and community development towards low-carbon society of 3 pilot municipalities (Khon Khaen, Roi Et and Sri Saket municipalities) has been made, aimed at the setup of several compact city centers, mixed land use, revive and develop the sources of water and green area network, linking communication and public transportation system, and environment-friendly means of travel such as walking, bicycling and small sized public transport vehicles in order to reduce carbon emissions

Undertaking the plans to include in strategic plans of the municipality for the years 2017- 2019 in order to allocate budget as well as local mechanism for implementation is the essential outcome from the project ensuring sustainability of the practice.

Khon Khaen Municipality

Supported by the consultant, 6 action plans have been drawing by local authority, encompassing development projects for the urban area as follows:

- Action plan 1 Smart Growth City comprise 2 projects
- Action plan 2 Green and Blue Network comprises 6 projects
- Action plan 3 Environment-friendly Street comprises 6 projects
- Action plan 4 Traffic Calming comprises 3 projects
- Action plan 5 Waste management comprises 3 projects
- Action plan 6 Green Building comprises 3 projects

Roi Et Municipality

The municipality together with local parties from all sectors involved, selected Khlong Khu Mueang project in steering landscape improvement. The pilot bridge be built across the canal to link the two banks, redevelop the landscape connecting the green spaces. This project is intended to eventually become a prototype for creating further green pedestrian network that leads to reduce carbon emission.

Sri Saket Municipality

The municipality together with local parties selected the plans for development around the railway station and the old town in order to push forwards creating green network and alternative non-motorised means of transport around historic communities. At present, Sri Saket has strategic plan for development of low-carbon society that is ready to be incorporated and put into action - such as Strategy 5 – Development towards low-carbon city (2015-2019).



The preparation of plans and planning for city and community development towards low-carbon society of Roi Et Municipality

Adapting planning and design strategy to local aspiration

Looking for relationships between the strategy and sustainable urban mobility

Fulfilling sustainable urban mobility projects under the original local missions

Steering of pilot projects at specific locations

Although the move towards low-carbon society at local level serves to reduce the impact on global climate change, visions regarding development of cities and communities must be aimed at suitability for each specific locality. Therefore, the global strategy, national policy and any planning and design frameworks have to be locally adapted in order to integrate the development of cities and communities towards sustainable development.

Drawing up plans for city and community development towards low-carbon society as well as sustainable urban mobility strategy requires reviewing the relationship and connection between that strategy and local development strategy and selecting the development projects that currently appear in the local strategies to which the sustainable urban mobility strategy is related. Following that there has to be an integration in the various undertakings that would fulfill the sustainability strategy under the original local missions in order to set up budget allocation as well as following local mechanisms.

On the other hand, city and community development plan that covers the various dimensions is important in the design and city development process which cannot be successful for the entire city in a short period of time. Nevertheless, pilot development undertaking in specific location has important influence on society as a whole and can induce preference for sustainable environment in the long term. Mayor and other local authority chiefs' awareness for developing sustainable environment is essential and actual driving force in developing specific areas of the city towards true development process still has to rely on people participating in the decision making process.



Although the mechanisms involved in carrying out city and community development towards environment-friendly city by various parties are based on holistic approach, but it also relies on important deriving force which are national policies, social power, and international commitments.

Driving force through national policies refers to political intentions, policies in developing the country, national economic and social development plan, and recommendation from various national committees such as National Committee for Policies on Climate Change for example, so as to push for changes to the city and community development directions and jointly establish common goals between the various parties.

Driving force through social power refers to awareness by administrators, people, and various local parties; public values and attitudes, social pressures and information media as well as learning from community to community so as to generate basis for development from the bottom up and steer practical development towards sustainable urban mobility at local level.

Driving force through international commitments taking action in accordance with the country's declaration or participating in international competitions (such as ASEAN Environmentally Sustainable Cities Award and Certificates of Recognition) which can directly stimulate local changes promptly.

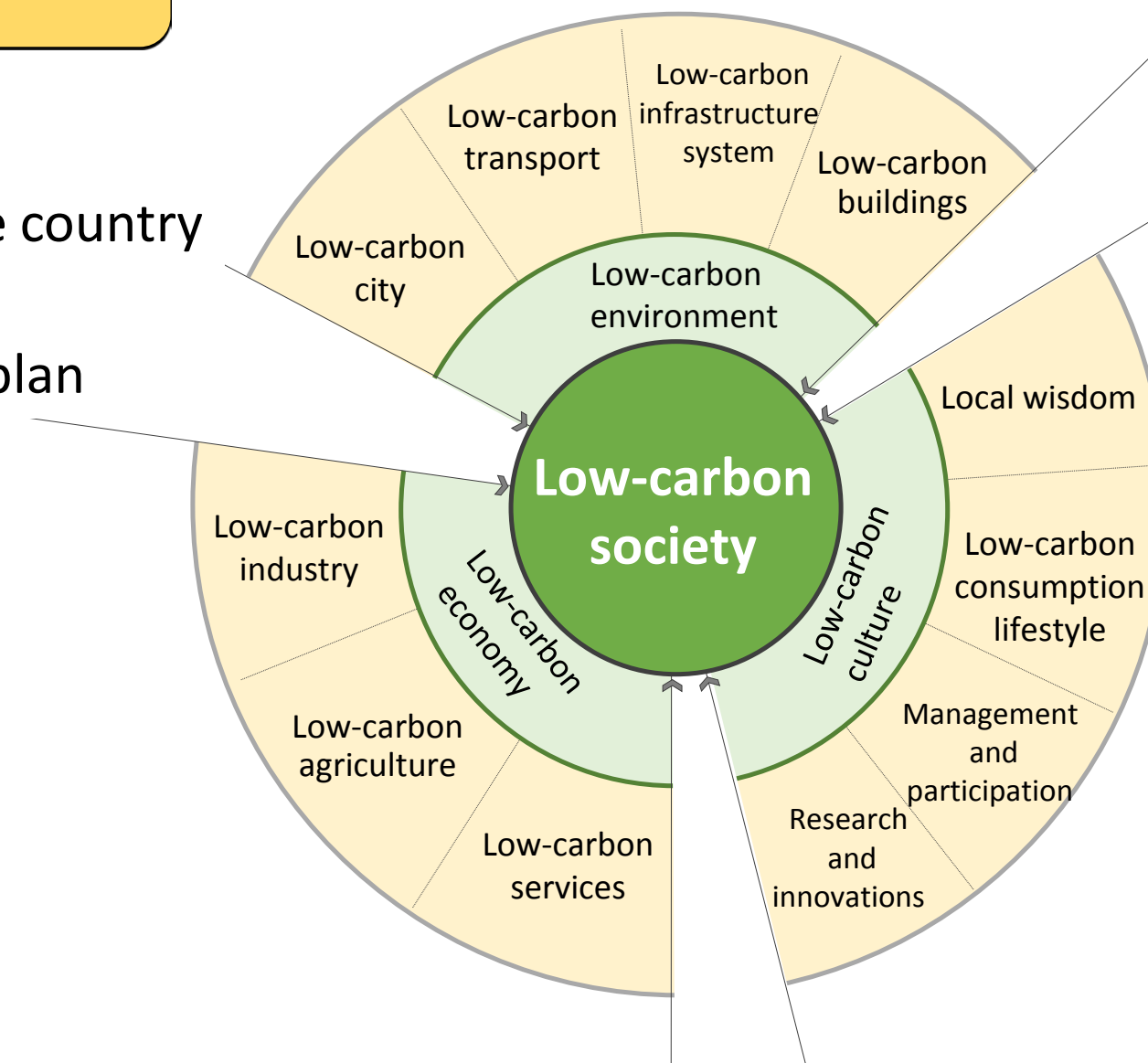
Driving force through international commitments

Agenda 21

Kyoto Protocol
ASEAN Environmentally Sustainable Cities Award and Certificates of Recognition

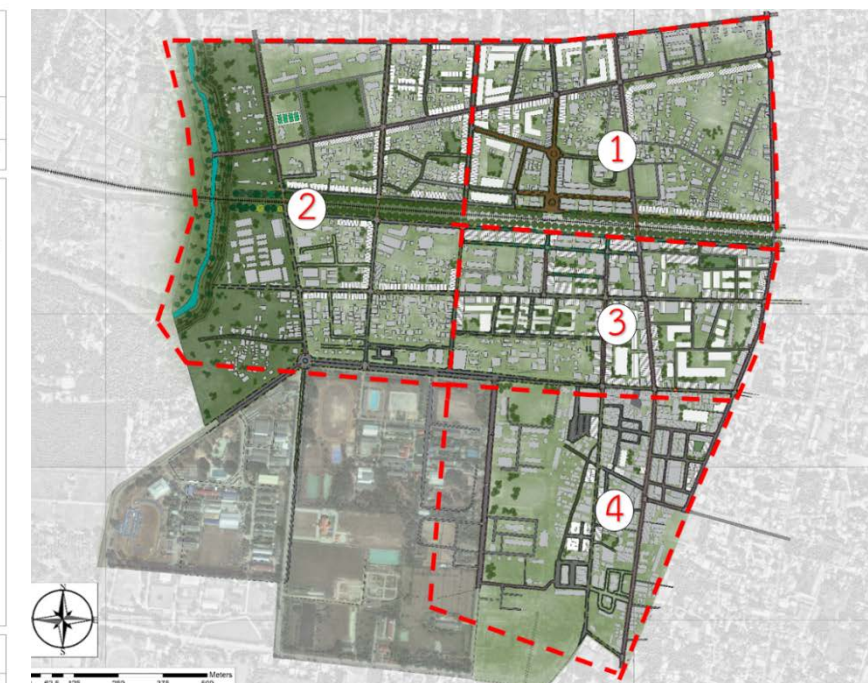
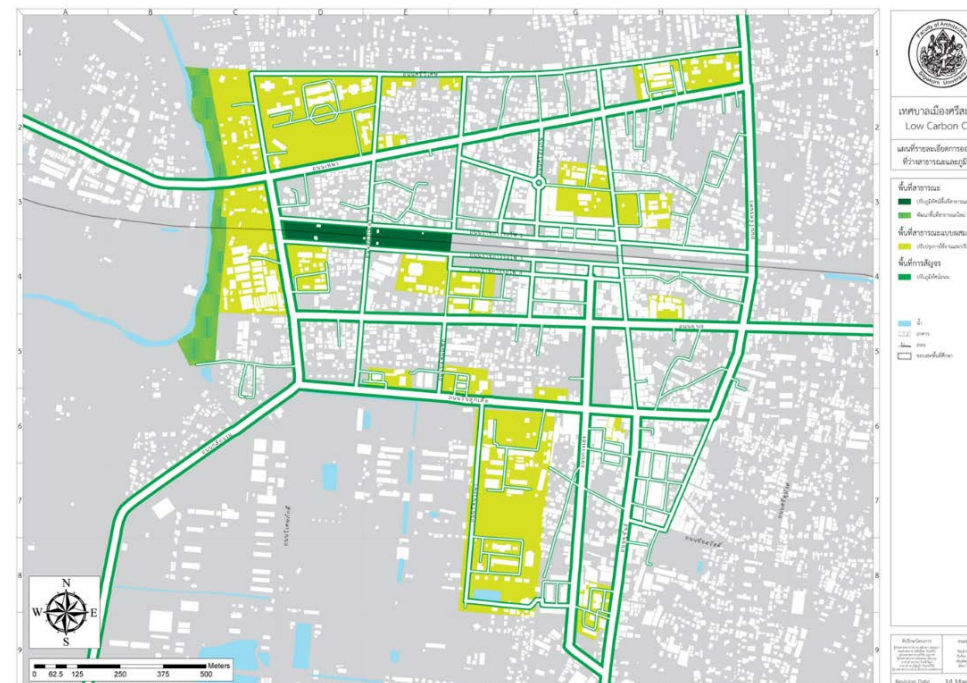
Driving force through national policies

Political intentions
Policies in developing the country
National economic and social development plan



Driving force through social power

Social awareness
Public values and attitudes
Social pressures and information media
Learning from community to community



The preparation of plans and planning for city and community development towards low-carbon society of Sri Saket Municipality