

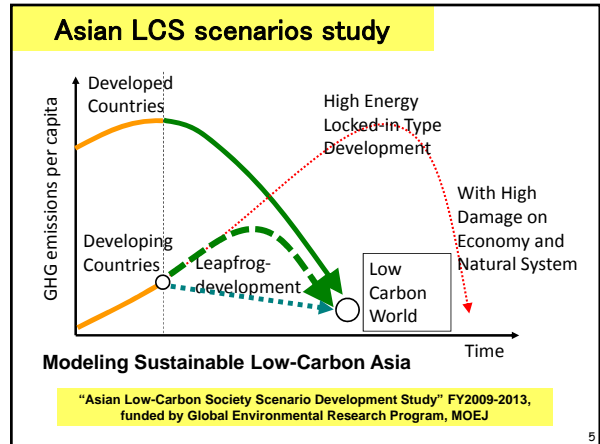
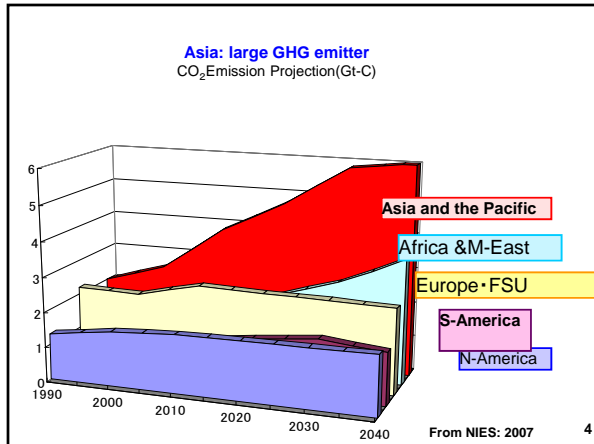
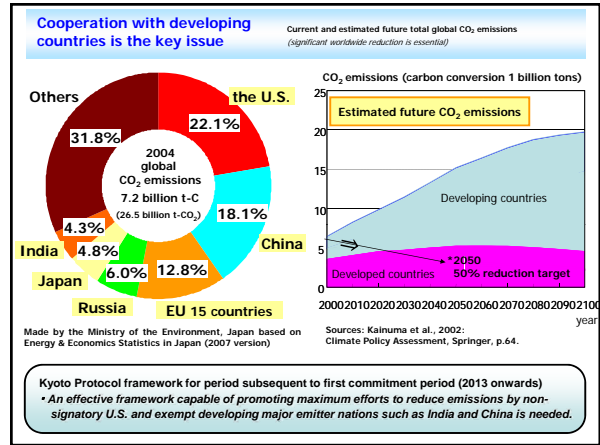


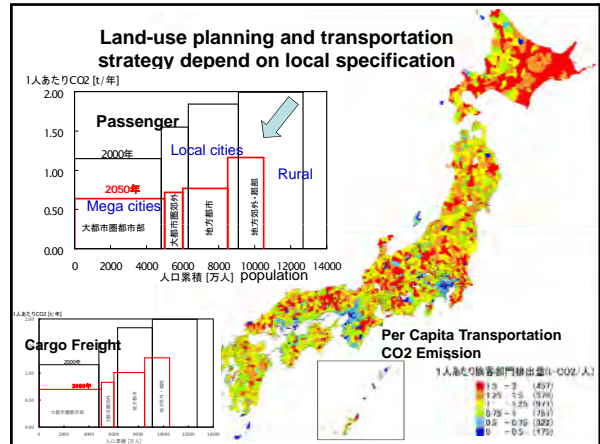
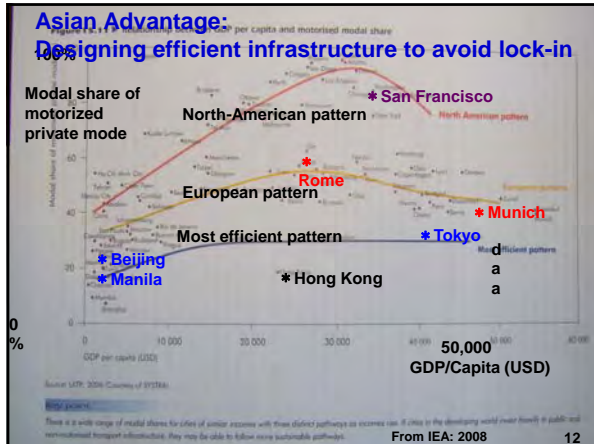
Contents

- Cities: frontrunner of low carbon world
- Asia in transition
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- research collaboration: LoCARNet

Cities: frontrunners of low carbon world
Findings from International Research Network for Low Carbon Societies

- **Cities provide an excellent opportunity to promote a Low Carbon Society:** To build a LCS, it is necessary to mobilise all the elements that make up society. Existing systems which are already complicated and locked in into an old "high carbon" regime, need to be transformed to achieve the LCS. Cities contain all the elements need to form a LCS. The administrative system generally falls under the control of a single local authority whose competence is wider than that of national authorities. As such, cities can form a test bed for social experiments in LCS which can be replicated in other cities. (Bologna, 2009)
- **Cities will play a major role in shaping the transition to a low carbon societies.** Low carbon society impacts citizens, both where and how they live. Cities are crucial actors since they can directly influence the planning of key issues such as traffic, urban land-use, building and waste management. Already, several cities have begun to autonomously act on self determined targets that support a low carbon society. For instance, local governments and municipalities in cities have set med- and long term mitigation target, identified demand side and supply side options, made concrete action plans, and concrete governance mechanisms and institutions to involve relevant stakeholders. The role of cities, including the influence of those constituencies, need to be mainstreamed in national and international level climate policy. (Berlin, 2110)
- **The risk of lock-in:** Without active climate policies, humanity will be locked-in to carbon intensive development paths; industrialized countries will slow down the turnover of their capital stock while emerging economies will build the bulk of infrastructures in ways that will be hard to re-shift at a later date. (Paris, 2011)





What Toyama LRT means

- Improving access to stations
- Introducing feeder bus services
- Promoting long-term residence around stations
- Promoting planning for an attractive city
- Putting in place an information space for city planning based on public transportation systems
- Comprehensive design plans

Multi-Benefits: developing public transportation systems and revitalizing communities

Toyama City: an example of the introduction of an LRT (Light Rail Transit) system

Source: Tatsudo Gaho No. 6 (Seibundo Shinkosha Publishing Co., Ltd.)

Reference: Light Rail Transit (LRT) Systems for Creating Compact Cities, a presentation by Masashi Mori, Mayor of Toyama City at a BBL Seminar, Research Institute of Economy, Trade and Industry

Reference: Introducing a Light Rail System to the Toyama Line and New Efforts in City Planning, Norio Nagakura, General Manager, City Improvement Department, City of Toyama, March 2005 issue of SUBWAY, Japan Subway Association

What Toyama LRT achieved

(before and after: 2005/2006)

Multi-benefits: bringing senior citizens to the city in large numbers, a modal shift, more sightseers and more people outside of office hours.

Changes in the number of users by purpose

Changes in the number of users by age (Senior users increased)

Changes in the number of users by time of day (Users in the daytime increased)

Means of transportation before Toyama Light Rail came into service

2005 (LRT) 2006 (Portram)

Other 20.5% (110,000 persons)

Taxi, etc. 3.5% (17,000 persons)

JR Minato Line 42.7% (2,135,000 persons)

Two-wheeled vehicle 1.6% (80,000 persons)

On foot 2.9% (142,000 persons)

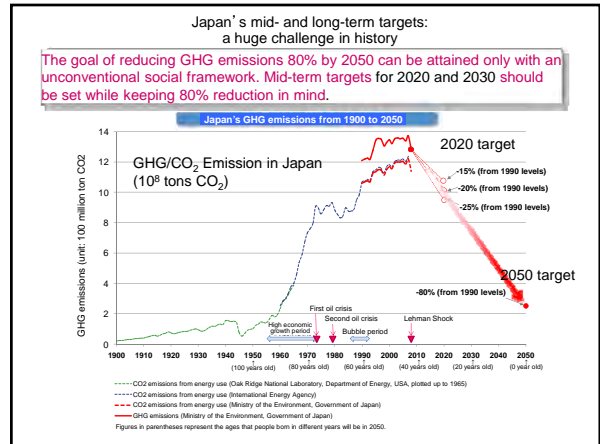
Auto (includes 11.5% of 584,000 persons)

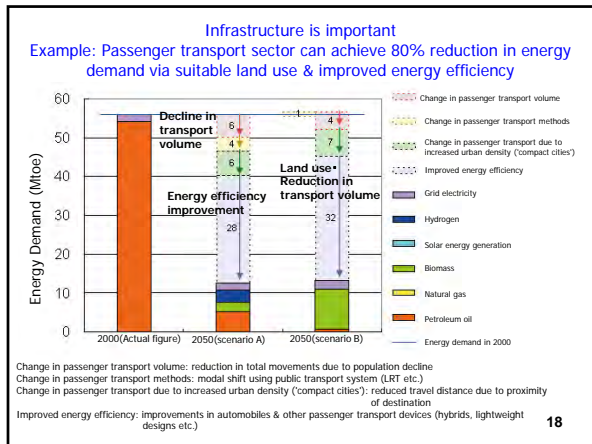
Chitetsu Bus 13.3% (664,000 persons)

Automobile users also switched to Toyama Light Rail.

15 Reference: Light Rail Transit (LRT) Systems for Creating Compact Cities, a presentation by Masashi Mori, Mayor of Toyama City at a BBL Seminar, Research Institute of Economy, Trade and Industry

- Japanese low carbon plan
- EV
- Urban revitalization



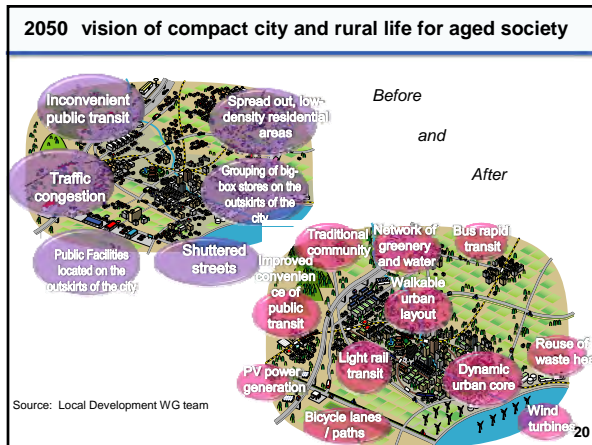


Can Japanese technology survive in this big system transition period?

Requires no internal-combustion know-how

Small hundreds car makers coming into EV market in China

(ELIICA) 4 PASSENGER SEDAN
370km/h MAX.SPEED
 Prof. Hiroshi SHIMIZU, Keio Univ.



Leapfrog Possibility in Asia

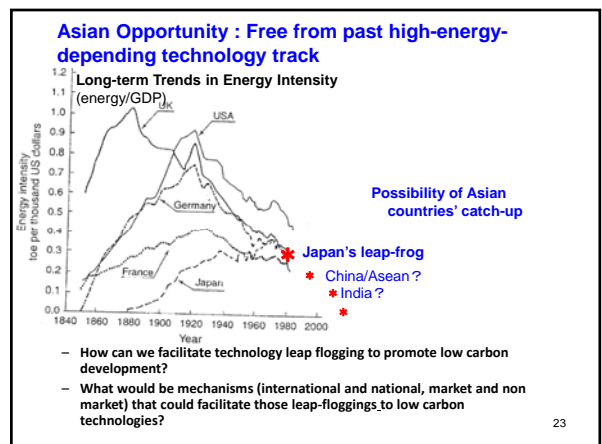
	Country	Domestic factor	External factor
Industrial Structure	India: IT Industry	Education/human resource	Soft tec. Globalization
Energy structure	Japan: Low energy intensity	Technology Rapid growth	Oil Crisis Energy security
Urban Structure	Singapore: transportation, water, housing,, Tokyo: Public transportation	Small land strong leadership Rapid urbanization	Relationship with Malaysia Before auto-age
Distributed energy	India: renewable energy, Biomass Brazil : ethanol	Poor power grid Investment, land area Sugar cane, lack of Oil	
Information	China: Mobile	Rapid economic growth, big land area, Not enough com-grid	IT technology
Renewable	?	Freedom of new	Climate Issue

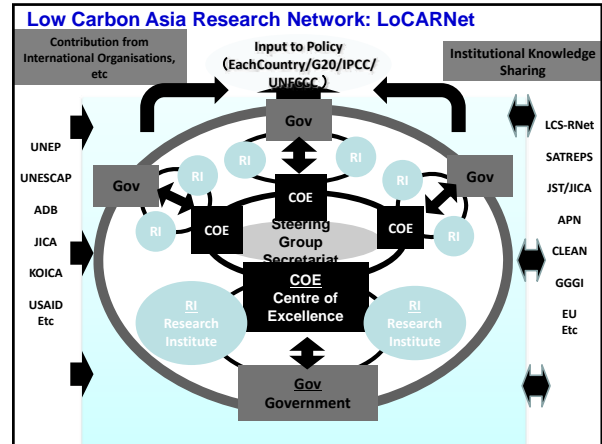
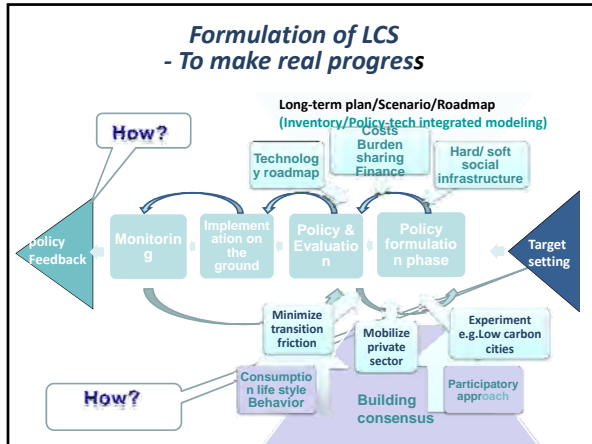
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Uniqueness in Asia ?
- Philosophical or conceptual ? -

In contrast with other type of proactiveness
Role of philosophy or political system, or tradition?

- Thailand: Sufficiency economy led by the King
- Bhutan: "Land of Gross Happiness to Save our Planet" policy to promote sustainable development alongside with spiritual survival. → former King Jigme Singye Wangchuck, who has opened Bhutan to the age of modernization/Develop
- Gandhi: → Increase Self sufficiency,
- China: New five year plan – increase urban population of 45mill, increase aforested area, not to reduce agricultural land, in a way to decoupling carbon emission and development





Low Carbon Cities: Asian advantage and challenge

- Free hand to draw low carbon development plan
- Rapid economic growth and urbanization
 - ⇒ huge opportunity of investment in infrastructure
 - ⇒ risk of lock-in to obsolete system?
- Enough technologies already exist
- "Leapfrogging" opportunity in technology
- International co-operation in progress towards Low Carbon World

⇒ Needs long-sighted, deliberate decision now

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