

The background features abstract, colorful swirls in shades of purple, green, and blue, interspersed with several yellow triangular shapes pointing in various directions.

LCSs scenario for China

**Liu Qiang, Zhang Xiaoxi, Wang Yu
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Last year's scenario

- A harmonious and 'well-off' society
- The majority of the people living in cities, which are the hubs of industrial and social activities. Meanwhile, people living in rural areas also enjoy quality and convenient public services and clean environment.
- Two scenarios for 2050: reference scenario and countermeasure scenario.

Quantification of China Scenario in 2050

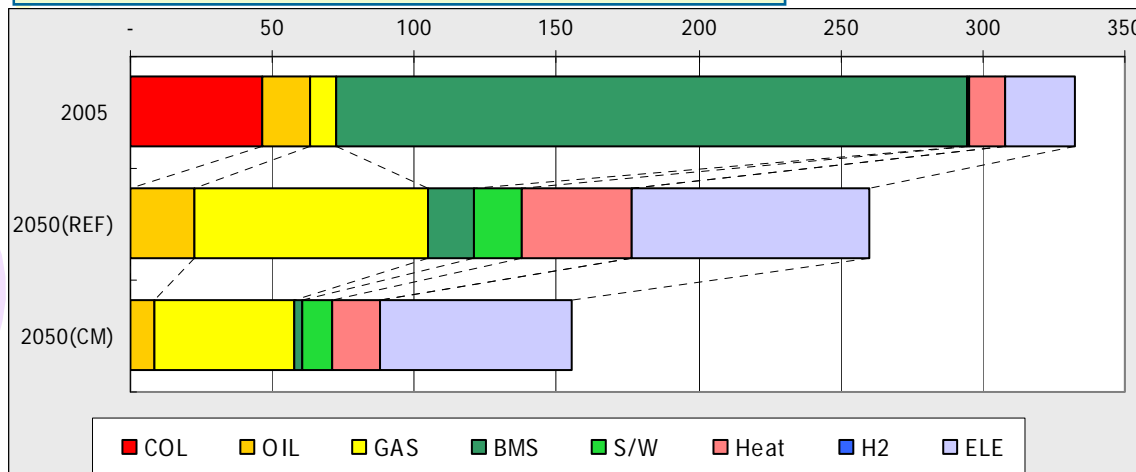
Year	Unit	2005	2050
Population	Mil.	1307.56	1577
Household	Mil.	376.21	585.74
Average family members		2.96 Urban 4.08 Rural	2.5 Urban 3.5 Rural
Land use			
Urban Population rate	%	43	80
Forestry area	%	18.21	26
Access to Electricity	%	98	100
Share of detached house	%	50	20
Floor space of houses	m ² /person	28.69	30
Floor space of offices	m ² /person	6	7
Real GDP	bn US \$	2299.45	17552
GDP Share of Industry			
Primary	%	12.6	5
Secondary	%	47.5	40
Tertiary	%	39.9	55

Residential sector

Last year:

- We focused on the improvement on insulation of housing.
- According to the increase of urbanization, biomass consumption will have a remarkable decrease.



Result of energy consumption





Residential sector



This year:

- We will continue to discuss the details of building insulation.
 - We want to discuss about spread of all-electric in countermeasure scenario.
 - And a shift of energy consumption of warming. Gas has already been used as a energy of warming instead of coal in Beijing. We assume that in 2050, 80% of household warming will be supplied by gas.
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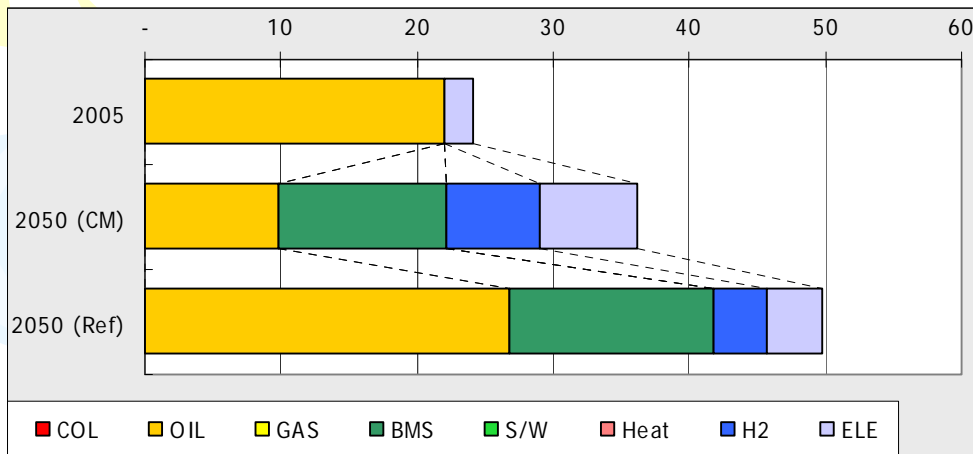
Transportation sector

Last year:

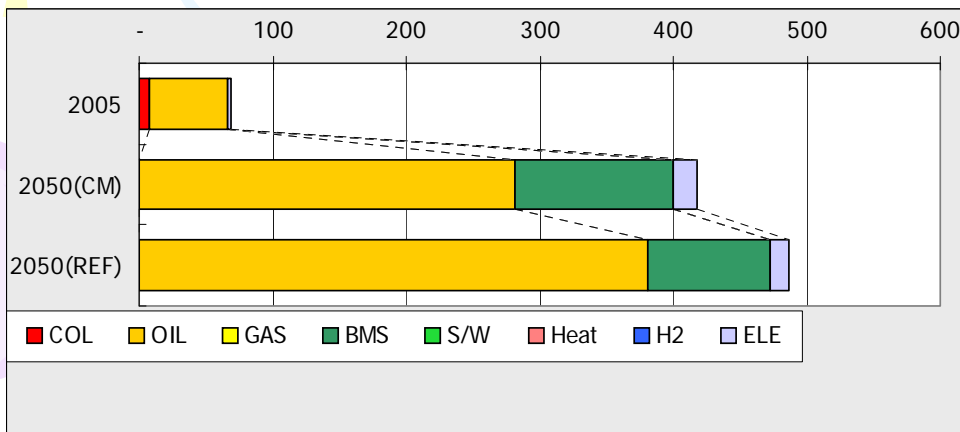
- We calculated that the demand for passenger transportation will increase around 500% during the projected period.
 - A great GDP increase and 21% population increase during the 2005-2050 period, mean dramatic increase in per capita income and production, leading to big growth in freight transportation demand.
 - In CM scenario, we made the share of biofuel and H2 much higher than the reference scenario.
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Transportation sector

Result of energy consumption



Passenger transportation



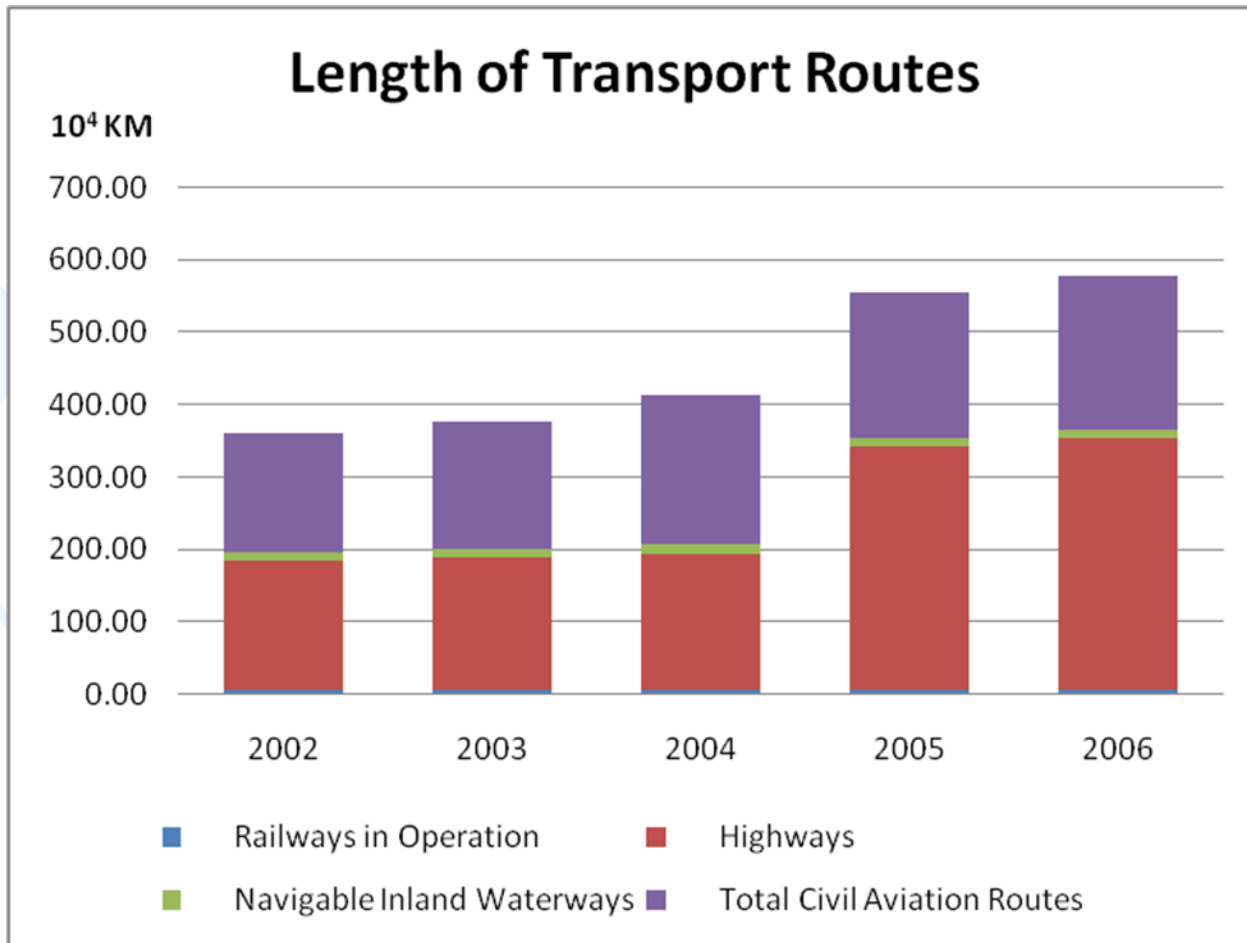
Freight transportation



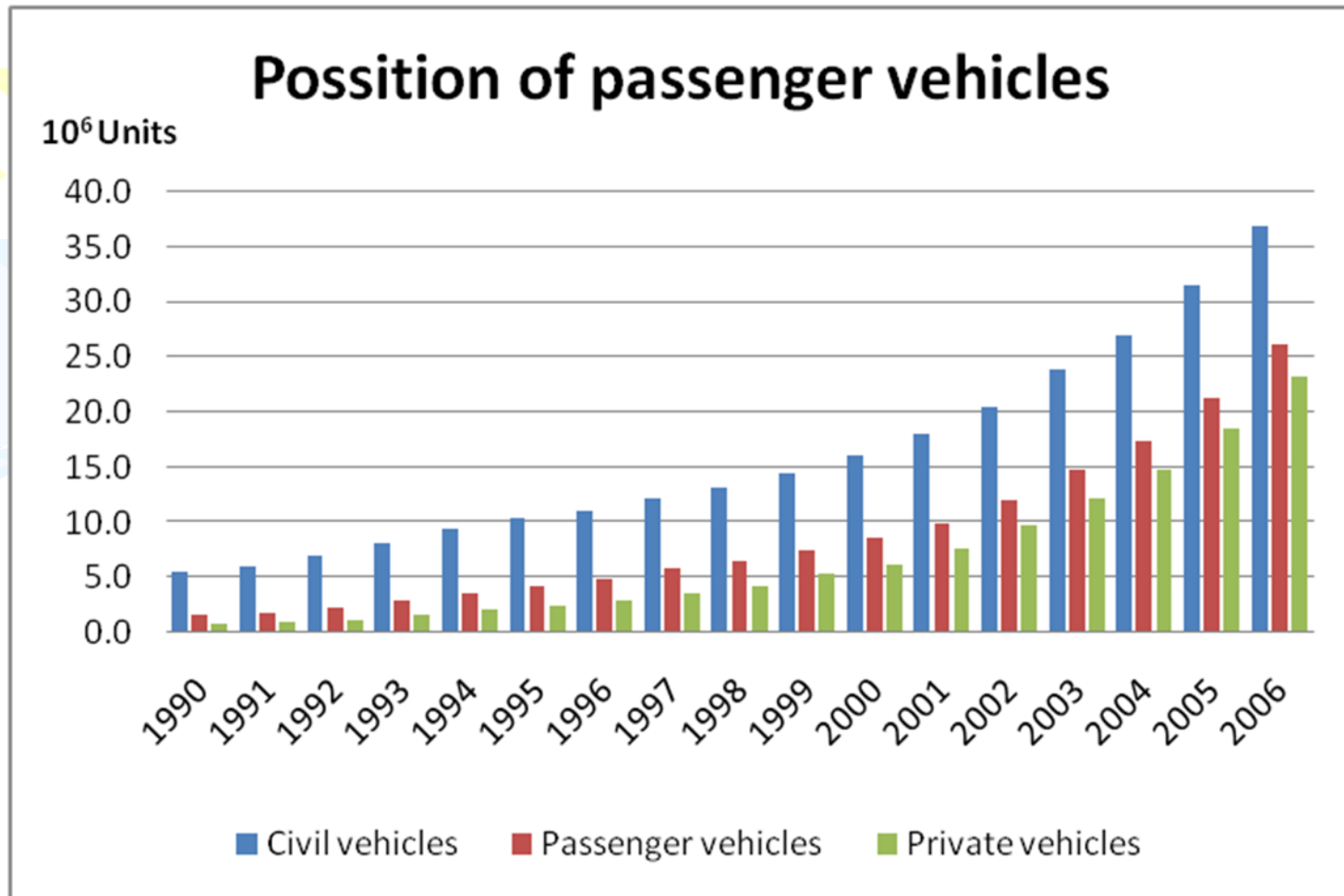
Future points for LCSs

- Transportation sector
- Building sector (Residential)

Transportation sector



Transportation sector







Transportation sector

- Many new technologies appear and have potential to be introduced driven by the policies and measures: LPG vehicles, hybrid vehicles, fuel cell, etc
- More restricted standard for fuel economy and tail gas pollution control
- Public transportation is encouraged by the government and the infrastructure is enhanced: e.g. MRT increase very fast in big cities
- Transportation fuels:
 - Oil dominant but others increasing in share
 - Biofuel may take some percentage but face resource limitation



Transportation sector

- High growth of passenger vehicles could be expected in near future but how about far future?
 - Different directions:
 - Increasing trend: Urbanization process
 - Increasing trend: enjoying the comfortableness and convenience of cars along with higher income and consumption pattern change
 - Reducing: willing to reduce the possession and use of cars along with the energy price increase and environmental awareness rising
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Building sector

- Main industry of China:
 - The building sector grown very fast in last 15 years and played an important role in promoting the economy development.
 - The total building area has attained to 42 billion M², with the annual growth rate of 23% during the period from 1990 to 2005
 - The energy use in building sector has become one of key forces to drive the high growth of energy consumption in China in recent years.
 - The share of building energy consumption in total primary energy consumption has risen from about 10% in 1980s' to 28% in 2005.



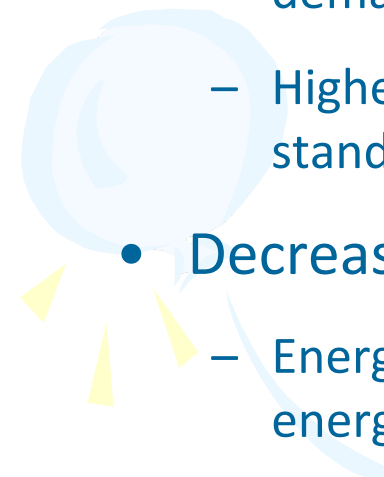

Building sector

- Living area per capita

Year	Urban	Rural
1995	16.3	21
2000	20.3	24.8
2001	20.8	25.7
2002	22.8	26.5
2003	23.7	27.2
2004	25	27.9
2005	26.1	28.7

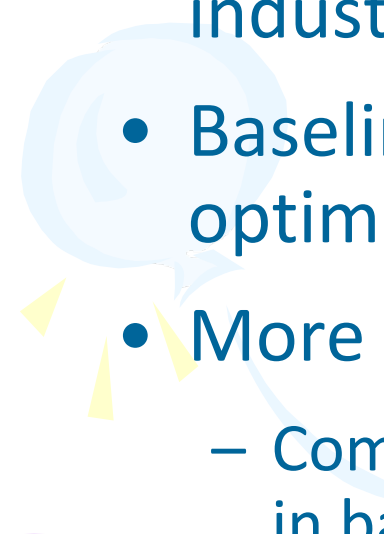



Building sector

- Increasing energy consumption:
 - The building area will increase fast especially in near future: living demand and urbanization process
 - Higher request on energy service along with the growth of living standard: more air-condition, expansion of heating regions
 - Decreasing energy consumption:
 - Energy efficiency improvement: building energy efficiency, appliance energy efficiency
 - Policy stimulation and public awareness arising
 - How about degree can the effect of energy efficiency improvement counteract the fast growth of building sector and corresponding energy consumption and GHG emission
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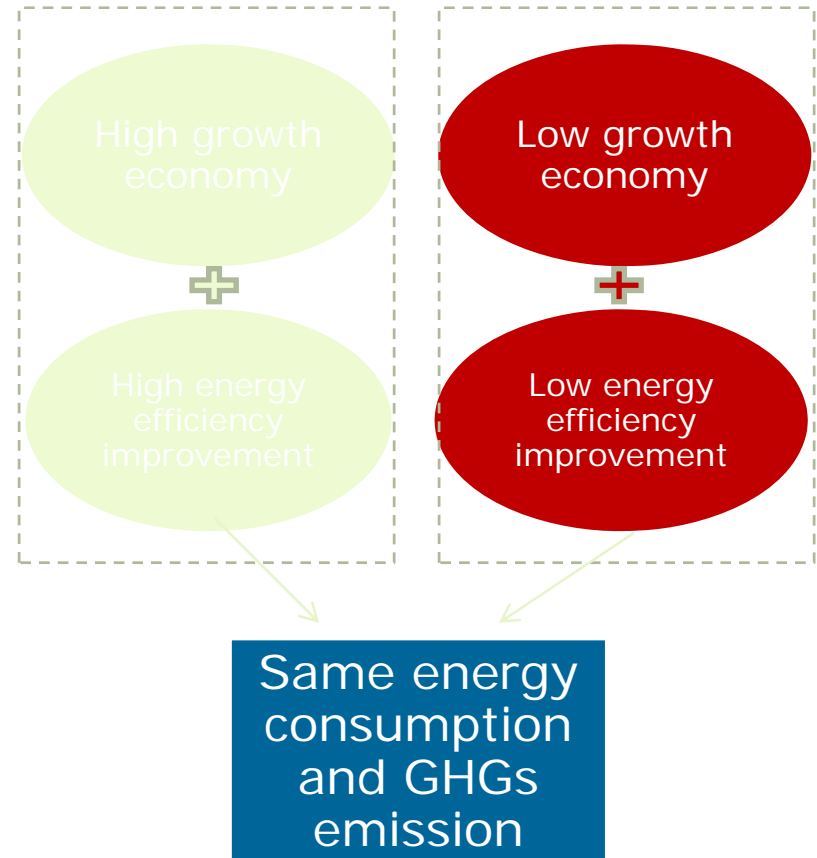


Interesting activities

- Focus on TR and RES sectors: two main energy consumers and GHGs emissions other than industry sector
 - Baseline scenario: Considering more factors, both optimistic and pessimistic
 - More scenarios:
 - Combining the policies and measures of government in baseline scenarios
 - Two alternative scenarios
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Discussion points

- Uncertainties of assumptions
- Storyline:
 - Same result with diff. roadmap
- How to deal with the inter-link between factors?
 - Possibility of conflict assumption: large behavior change but low economy growth? one sector change a lot but others remain relative stable?
- Driving forces for LCSs: **technologies and policies**
- How to consider the investment involved? **Linking LCS with SD**





Thank you!