

International Conference of Low Carbon Asia
The 4th Annual Meeting of Low Carbon Asia Research Network (LoCARNet)
Stabilizing Climate through Low Carbon Actions in Asia: Road to COP21 and Beyond

Breakout Session 4

Intended Nationally Determined Contribution (INDC)

Chair: Toshihiko Masui (NIES)

Rapporteurs: Wai Yoke Wong & Teh Bor Tsong (UTM)

12 Oct 2015, 13:00-1500, Meeting Room 3,
Double Tree Hotel, Johor Bahru, Malaysia

Speakers

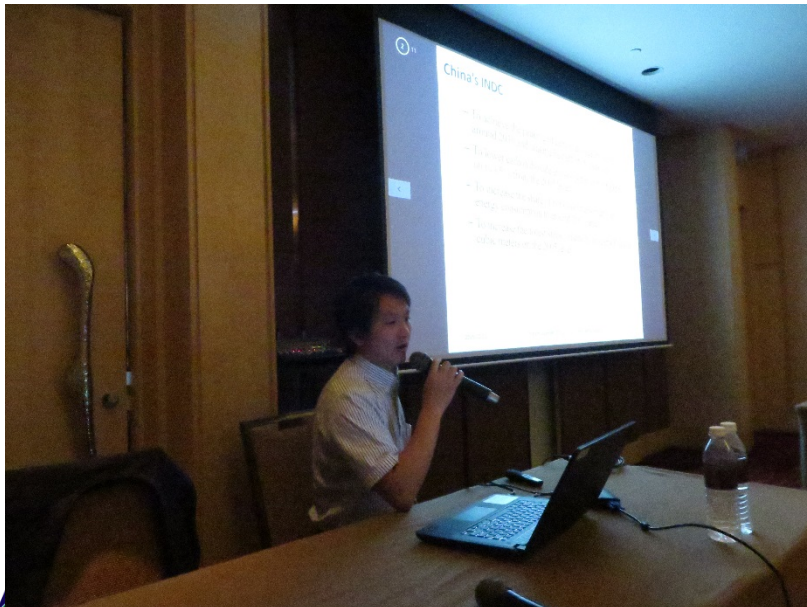
- **Mr. Uy Kamal**
 - Deputy Director, Climate Change Department, General Secretariat of National Council for Sustainable Development, Cambodia (Skype)
- **Prof. Budit Limmeechokchai**
 - Sirindhorn International Institute of Technology, Thammasat University, Thailand
- **Prof. Priyadarshi R. Shukla**
 - Indian Institute of Management Ahmedabad (IIMA), India
- **Dr. Hancheng Dai**
 - National Institute for Environmental Studies (NIES), Japan



Prof. Bundit Limmeechokchai



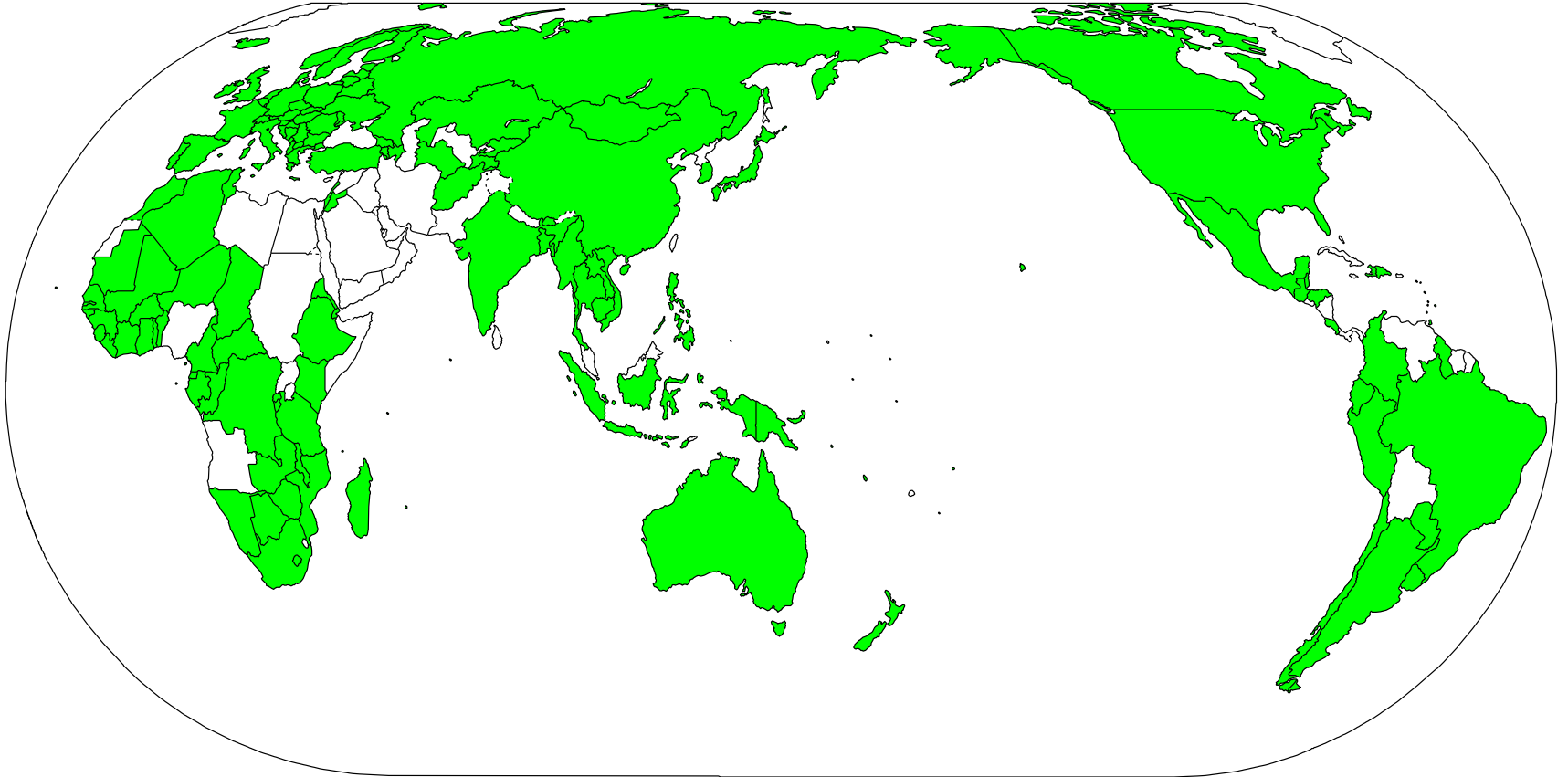
Prof. P R Shukla



Dr. Hancheng Dai



Countries submitting INDCs

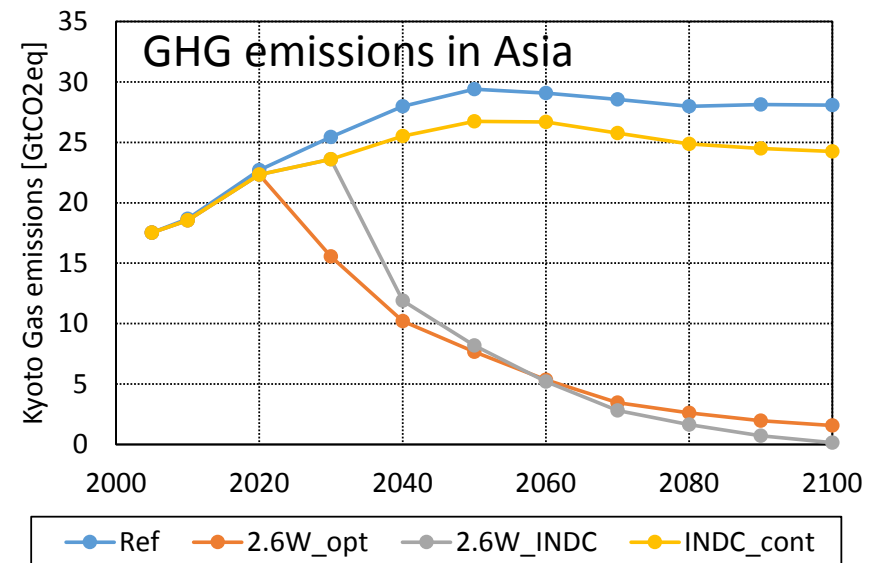
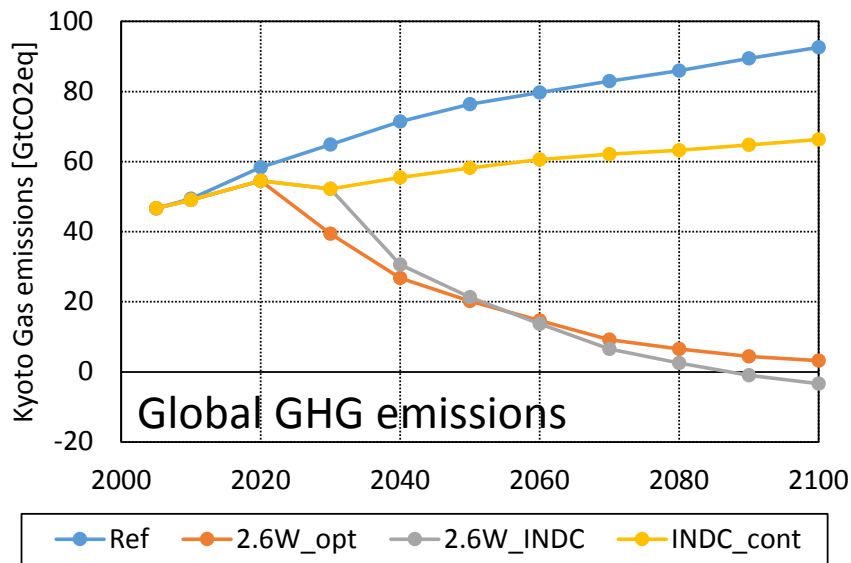


As of October 9, 2015

GHG emissions in 2010 from submitted countries cover around 90% of the global total emissions.

Messages from the Global model

Targets proposed in INDCs are meaningful and necessary to develop low carbon society. However, achievement of the 2 ° C target i.e. global mean temperature increase to be below 2 ° C compared to the pre-industrial level will depend on the revision of INDCs and mitigation measures after 2030. Therefore mitigation measures in Asia, where the GHG emissions are expected to increase, become more important.



Scenario	Contents
Ref	No climate policy.
2.6W_opt	Mitigation efforts consistent with Copenhagen pledges until 2020 and then the efforts increase to achieve the long term 2 ° C target.
INDC_2.6W	Copenhagen pledges in 2020, INDCs in 2030, and then implementation of mitigation policies to achieve the 2 ° C target. (Cumulative GHG emissions during the 21 st century will be the same as those in 2.6W_opt.)
INDC_cont	Copenhagen pledges in 2020, INDCs in 2030, followed by the same carbon price for INDC.

INDC Cambodia

- Experience and challenges in preparing INDC

by Mr. Uy Kamal

Target:

- Energy related emissions: 3100GgCO₂e reduction from Baseline emission (11600 GgCO₂e) in 2030.
- LULUCF: Increasing the forest cover to 60% of national land area by 2030 and maintaining it after 2030. Estimated CO₂eq reductions: 4.7/tCO₂eq/ha/year.

Process: The Ministry of Environment, Cambodia prepared INDC with technical assistant from RICARDO-EAE Ltd, England and also support from GEF through UNEP DTU. A working group on INDC was formed with participants from various government agencies. INDC is aligned with government development strategies and plans. INDC mitigation contribution chosen: can be a combination of outcome and action based. However, action based is preferred.

Opportunities: Cambodia has made good progress in developing policies and strategies; the strong multi-stakeholder mechanisms were formulated in place, and be able to facilitate and encourage all stakeholders dealing with climate change policies and actions step by step in a nationally own manner.

Challenges: short timeframe for INDC report preparation, insufficient data, and as an LDC country and due to current low emission (LDC), difficulty in setting reduction target.

3. PROGRESS

Mitigation Contribution - actions in key sectors – aggregate reductions by 2030

Sector	Priority actions	Reduction as Gg CO ₂ eq and % in the year 2030 compared to the baseline
Energy Industries	Connecting auto producers to the grid, development of hydropower and other renewable energy such as using solar, rice husks for electricity generation, and promoting energy efficiency by end users	1,800 (16%)
Manufacturing Industries	Promoting renewable energy and energy efficiency for garment factory, rice mills, and brick kilns	727 (7%)
Transport	Promoting mass transport, Motor vehicle inspection, eco-driving	390 (3%)
Other	Promoting energy efficiency for buildings, more efficient cookstoves, bio-digesters and water filters	155 (1%)
Total Savings		3,100 (27%³)

The 2nd consultation workshop was conducted on 16 September 2015

Objective: To present and get comment on the draft INDC from relevant stakeholders



INDC Thailand

- Thailand's INDC 2030

by Prof. Bundit Limmeechokchai

Target: 20-25% reduction by year 2030

Process: Consultation with stakeholders; In line with government strategies and plans with various governmental agencies; Commitment of Thailand's INDC reaffirmed by PM at UN in USA (Sep 2015).

Model: AIM/ Enduse

To achieve the target: Thailand needs

- Institutional arrangement
- Capacity building for government offices
- FIT scheme for RE
- Enforcement of EE (energy efficiency) laws for buildings and industries (laws are in place but currently the enforcement is not strong)
- Co-funding of LCS actions from demand and supply side (low carbon technology transfer)

Others:

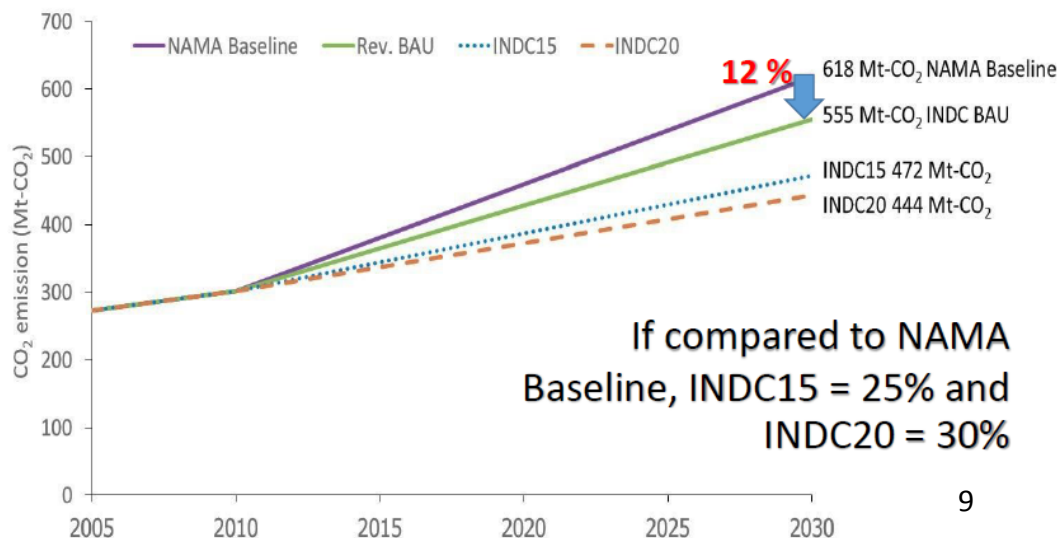
- MRV (measured, reported and verified) are important.
- Reflecting renewable energy supply by Alternative Energy Development Plan 2015.

PM applauds 2030 Agenda, pledges work towards a sustainable Thailand including INDC 2030



“... On Thailand’s part, we reaffirm our commitment under the **Intended Nationally Determined Contributions (INDCs)** to reduce our GHG emissions between **20 and 25% by 2030**” PM added .

Economy-Wide GHG Mitigation Potential in 2030



INDC India

- India's INDC 2015: An Assessment

by Prof. Priyadarshi R. Shukla

Three important themes (quantitative features):

- (1) 33-35% emission reduction by 2030 from 2005 baseline (increase from 20-25% Copenhagen target)
- (2) 40% of electricity power installed capacity from non-fossil fuel based energy resources
- (3) Increase of carbon sink

There is a gap between INDC and 2-degree target that needs to be addressed.

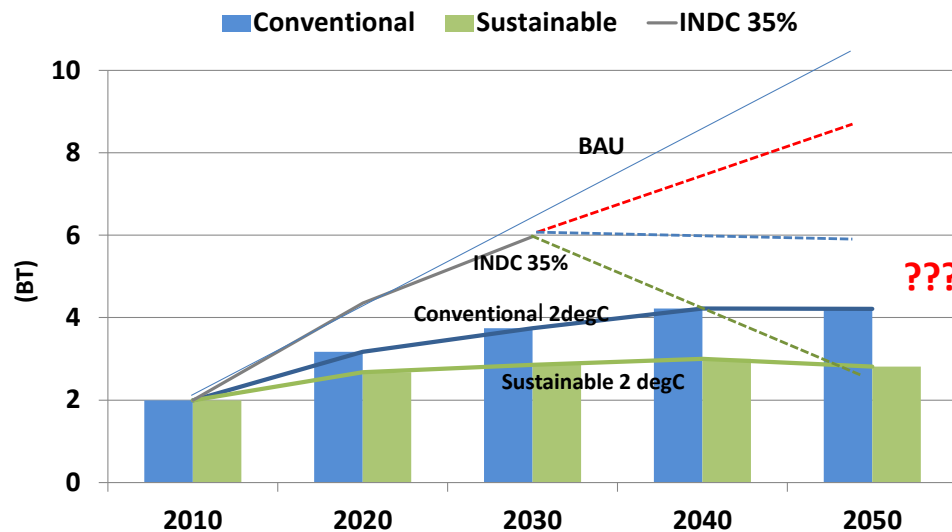
Challenges:

- (1) Technology transfer for energy resources from non fossil fuel
- (2) Additional finances to scaling up adaptation and mitigation activities

Action Plan

Objective	Actions
1. Reduce emissions intensity of GDP by 33 to 35 % by 2030 from 2005 level	<ul style="list-style-type: none"> - New, efficient and cleaner in thermal power technologies - Reduce Transport emissions - Energy Efficiency - Climate Resilient Infrastructure - Zero Effect, Zero Defect Policy
2. 40 % electric power capacity from non-fossil fuel based energy by 2030 (helped by technology transfer and low cost international finance)	<ul style="list-style-type: none"> - 175 GW solar + wind + biomass by 2022; continue scale up - Aggressive Hydropower Development - 63 GW Nuclear Power by 2032
3. Additional carbon sink of 2.5 to 3 billion ton of CO ₂ e by 2030	<ul style="list-style-type: none"> - Implementation of 'Green India Mission' and other afforestation programs - 140,000 km long tree line on both sides of national highways

INDC & 2°C scenario Gap



INDC China

by Dr. Hancheng Dai

Targets:

- 60-65% of reduction in carbon emission/ GDP (from 2005 level)
- 20% increase of non-fossil fuels in primary energy consumption
- Increase in forest stock volume by 4.5 billion m³

Action plans include list of qualitative actions (not quantitative actions, hence specific reduction per action is unable to be determined)

Agreement should be a legally binding agreement

INDC is not enough to achieve 2 degree target.

Showing the gap between China's INDC path and 2 degree target and regional disparity using his CGE model

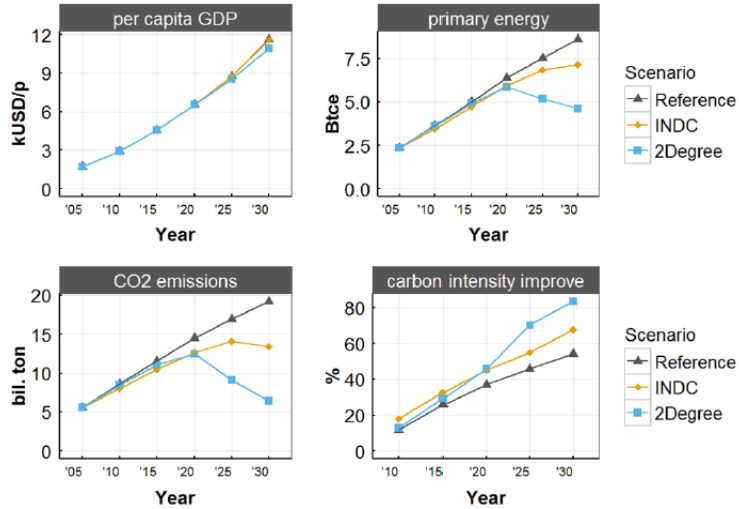
Challenges:

- (1) Technology transfer for energy resources from non fossil fuel
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Results: macro indicators

From 2005 to 2030:

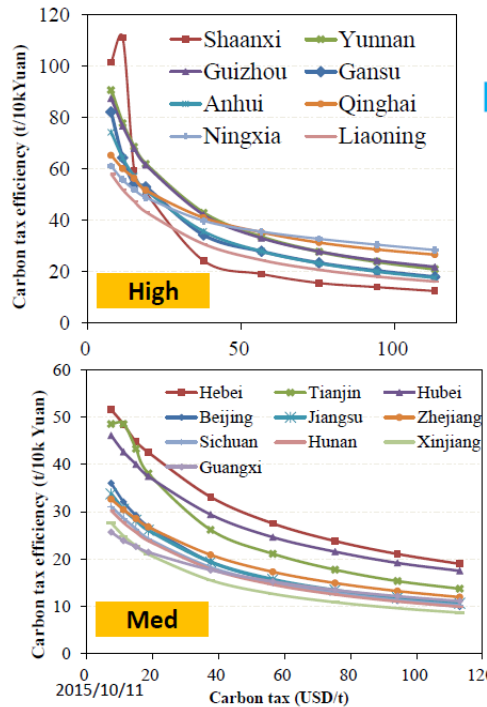
- Per capita GDP rises from 1.72 to 11.65 kUSD/capita;
- CO₂ rises from 5.56 to 13.42 billion ton, not enough for 2-degree target;
- primary energy rises from 2.36 to 7.14 btce;



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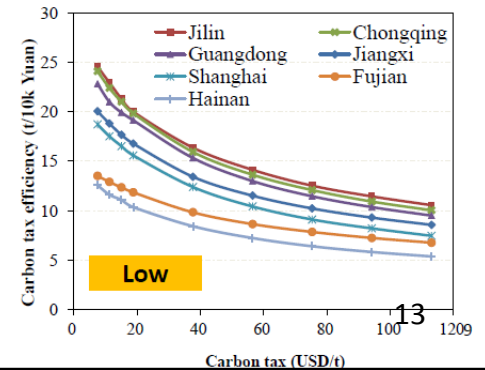
The 4th LoCARNet, Oct 11-13, 2015, Johor Bahru, Malaysia

Results: regional efficiency of carbon tax



Efficiency of carbon tax, measured by carbon reduction by unit GDP loss, is different among Regions

- ◆ More efficient in less developed southeast provinces
- ◆ Less efficient in more developed coastal provinces
- Regional climate policy should consider such disparity



Messages from the presentations in session 4

1. There is a big gap between 2-degree target and INDC in each country target.
2. Action plans are in place to achieve the targets (lifestyle, urbanization, ...).
3. In order to achieve target, more investment are needed.
4. MRV included in the data we will have to assist in the countermeasure. MRV system becomes important.
5. Uncertainties (projection) has to be taken account of, as INDC will be revised every 5 or 10 years.

Q&A

Q: In the challenges stated the difficulty in setting reduction target, but INDC is aimed at stating the intended commitment. How does that come in line?

A: According to INDC report guideline, country can choose either contribution (action or outcome).

Q: Who will make sure of these INDCs to be logic and achievable?

A: For Thailand, since the set up of NAMA roadmap there is tracking from MONRE, which from there Thailand realized that 7% reduction is actually easily achieved. That is the reason that Thailand is now looking at the upper limit of the reduction target (20%), such is the monitoring mechanism.

Q: To what extent the global economic crisis and fuel prices have effects on these models in projection?

A: Projections (not predictions) are based on assumption of board scenarios instead of taking fragmented (local and specific) scenarios. Hence the projections are taking into general economic scenario and fuel price.

Q: Is it necessary to have more urbanization in China? If we think about LCS in 2030, maybe the urbanization should be controlled?

A: In the long term, there will be more people living in the city. But in the future, the supply is more than demand, hence the current infrastructure can meet the future demand.

A: Jobs are the main attraction for people to move to the cities. If urban services are available in rural area, urbanization would not be necessary. eg. Mobile phone services by-passed the needs for land line phones and can be used in rural areas (need not be in urban areas to have phone service).

Comments

- How will the commitment from countries be monitored, as the commitment of developing countries are different from developed countries?
 - Countries submit a biennial report (UNFCCC) to include the GHG inventory. Funding for developing countries through UNDP
- Action is important, as well as target. In the case of Japan, the public (citizens) do not know how to reduce CO₂, hence information to the public (and other sectors as well) on how to reduce energy is equally important.