



Action from India

Aligning climate change and sustainable development in India

Dr. Minal Pathak, CEPT University, India

India shall undergo multiple transitions during the coming decades such as in income, demography, urbanization and industrialization. India's climate change roadmap is therefore framed keeping in view sustainability challenges including green jobs, clean energy access and climate resilience. This is evident from focal areas propounded in India's National Action Plan on Climate Change (2007) and Intended Nationally Determined Contribution (INDC) which aim at 33 to 35% decline in carbon intensity between 2005 and 2030. On mitigation, the focus is both on energy supply and demand sectors. Policy push on demand-side is on energy efficiency. The energy supply-side actions include steep targets for solar, wind power, refocusing on hydro potential to gain energy and water co-benefits and nuclear. The envisaged sustainable habitat and transport actions would deliver near-term air pollution and energy security co-benefits besides shaping the

long-term low carbon pathway.

India envisages converting climate change and sustainability challenges into opportunities. The implementation towards a low carbon society, as envisaged, shall be by motivating innovations, engaging private sector to develop domestic industry that generate green jobs and enabling communities to enhance climate resilience. Plans are afoot to engage with global players for technology transfer and financing from multilateral and bilateral agencies as well as through climate finance instruments. Led by the national programs, sub-national governments are strengthening climate resilience by mainstreaming climate change within the in-situ policymaking and planning processes. The enhancement of policies push in line with INDCs, e.g. for renewables and energy efficiency, promises to keep India on the course to meet INDC targets.



LoCARNet Iskandar Malaysia Declaration

LoCARNet launched Iskandar Malaysia Declaration "Stabilising climate through low carbon actions in Asia – Road to COP21 and Beyond" at its 4th Annual Meeting in Johor Bahru, Malaysia in October, 2015.

This declaration was drafted by LoCARNet researchers from its steering group and approved by the participants at the LoCARNet 4th Annual Meeting.

It consists of six items including: **focusing on Asian wisdom** which potentially underpins the success of any international and regional climate change mitigation and adaptation efforts; new opportunities and possibilities for **economic growth in Asia via green growth**; necessity of **inclusive and enabling climate policies** to empower highly diverse people in Asia to take positive

actions for climate stabilisation; **protect, restore and promote sustainable use of terrestrial ecosystems**, as well as oceans and marine resources; significance of **'Science-into-Action' (S2A)**; proposal of **global and regional smart partnerships** as a key success factor for the transition towards resilient low-carbon society.

It concludes that Asia is ready to contribute, positively anticipates and will strongly support the desirable outcomes of the Paris Climate Change Agreement.

LoCARNet Iskandar Malaysia Declaration is downloadable from following link. http://lcs-rnet.org/wp-content/uploads/2015/10/LoCARNet-Iskandar-Malaysia-Declaration_as-of-20151013.pdf

LCS-RNet / LoCARNet activities update - January 2016 -

"Policy Dialogue on Carbon Emission Pathways for Bangladesh" in Dhaka, Bangladesh, 24th January 2016

LoCARNet in collaboration with the International Centre for Climate Change & Development (ICCCAD) arranged a policy dialogue in Bangladesh particularly to demonstrate and discuss possible analytical methodologies and quantitative tools for policymaking. About 40 participants gathered from in and outside Bangladesh.

In the thematic sessions, the INDCs of Bangladesh were explained by speakers, and the validity of initiatives such as the joint crediting mechanism (JCM) was introduced. Several analytical methodologies, including the AIM-Enduse model as well as 2050 Calculator models from Bangladesh and Japan were also presented during the sessions.

At the panel session moderated by Dr. Shuzo Nishioka of IGES, several discussants and participants observed that social and cultural issues are also quite important when considering climate change mitigation, particularly because of the need for behavioural change. Prof. Mofizur Rahman of BUET emphasised the role of

the water sector and its implications in emissions pathways for countries like Bangladesh. Prof. Nishioka also noted that the image of the society that we envision for the future is also equally important.

Finally, Dr. Saleemul Huq highlighted the outcomes of COP21 and the Paris agreement, as well as the adoption of the SDGs, and he expressed his expectations for Bangladesh's move towards a positive direction in achieving a low-carbon society.

For more details, please visit our web page: http://lcs-rnet.org/locarnet_meetings/2016/01/1705



History of LCS-RNet

At their meeting in Kobe in May 2008, G8 Environment ministers recognised the need for countries to develop their own visions towards low-carbon societies, and supported the establishment of the International Research Network for Low Carbon Societies (LCS-RNet). In the G8 Environment Meeting (G8EMM) held in April 2009 in Siracusa, Italy, high expectations were placed on LCS-RNet, and the network was asked to report back its network is composed of 15 research institutes from seven countries.

LCS-RNet Secretariat

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International Research Network for Low-Carbon Societies
- Scientific Research Contributing to Low Carbon Policy-making Process -

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Resolutions for the New Decade: Beyond COP21 - Action from Asia -

At **COP21**, the **Paris Agreement** was concluded by 196 countries. This historical agreement aims at holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit the increase to 1.5 °C, and equally affects both developing and developed countries. **Asia** has an important role in this global mission especially in the coming decade as the foundation of the region's low-carbon and sustainable development will be built during this period. In this context, LoCARNet researchers (ASEAN + India & China) contributed short essays about **Actions** taken in their own countries, entitled "**Resolutions for the New Decade: Beyond COP21**".

- p1 Contribution : Prof. Ho Chin Siong, Universiti Teknologi Malaysia
"Beyond the COP21, Action from Asia"
Resolutions for the New Decade: Beyond COP21 - Actions from Asia -
- p2 "Realizing GHG Emission Reduction Pledges " Dr. Ucok Welo Risma Siagian, Institut Teknologi Bandung
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LCS-RNet / LoCARNet activities update

Resolutions for the New Decade - Action from Malaysia -

Contribution : Beyond the COP21- Action from Asia - Prof. Ho Chin Siong, Universiti Teknologi Malaysia (UTM), Malaysia

Since 1980s **Malaysia** has integrated the concept of sustainable development and environmental quality protection in all major development planning. In the last decades, the government began to recognise the importance of environmental sustainability as part of the five (5) year comprehensive national development plan. The voluntary target of reducing the greenhouse gases (GHGs) emission intensity of its Gross Domestic Product (GDP) by up to 40% compared to 2005 levels by 2020 set by the government in 2009 marked an important landmark history in Malaysia policy shift toward green growth for sustainability and resilience.

By the end of 2013, Malaysia had already achieved a 33% reduction showing a concerted effort has been given to address this issue. There is a strong emphasis on issues of climate change, environmental degradation, and sustainable utilisation of Malaysia's natural asset. This is timely as Malaysia currently as an emerging economy has set a target to become an advanced economy by 2020. The transformation cannot be done in a Business As Usual (BAU) manner. It has to be done in a resilient, low-carbon, resource-efficient, and socially-inclusive manner. The transformation from BAU which is 'grow first, clean-up later' path needs to be transform into green growth which is a greener trajectory. Green growth is a game changer in the context of Malaysia government is part of comprehensive strategy of Triple bottom-line (TBL) that considers all three pillars of sustainable development – economic, social, and environment.

Malaysia like many Asian developing nations with high urbanisation rate needs to consider cities as key to climate change solution. As cities find solutions to climate change, they are also creating sustainable green jobs with application of green technology. Cities are increasingly driving meaningful actions, and will have a significant impact. Beyond COP21, Malaysia government is focusing on the development of an enabling environment that will facilitate a shift in the economy, particularly in the private sector, towards more sustainable patterns of consumption and production.

The plan also encompassed adaptation measures which are non-structural approaches like hazard risk maps and warning systems will

strengthen disaster risk management and ultimately improve the quality of life of the people. We need to further strengthen our Science into Action (S2A) methodology to understand the barriers to climate and environmental actions and the process of decision-making. We have to focus on PDCA (Plan-Do-Check and Act) cycle and also involving the process of identify the problem, identify what the policy choices are, implement those policy choices and then monitor and evaluate the effects of those policy choices.

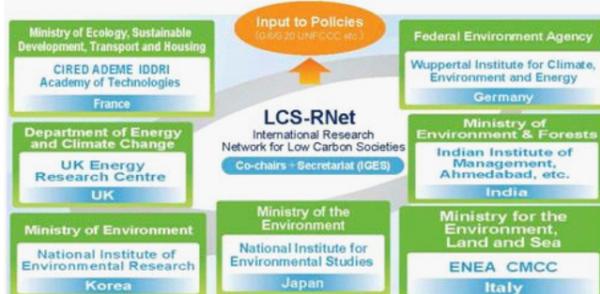
Furthermore, we must recognize that decision-making processes particularly the importance of "buy in" from various stakeholders that they operate at a range of spatial scales from the urban and regional to the national level. To ensure it is effective, they must be transparent and participatory, involving all relevant stakeholders. This transformation will ensure sustainability of the nation's natural resources, minimise pollution, and strengthen energy, food and water security. As Malaysia is the Chair of ASEAN for 2015 and the theme of its ASEAN Chairmanship is "Our People, Our Community, Our Vision.", we can play the key role to share the experience of low carbon society scenarios development vision and policy implementation with other ASEAN members as part of this "global call to action" partners echoed in COP21 Paris.

Ho Chin Siong is currently Professor of Faculty Built Environment, and Director of International Relations at Universiti Teknologi Malaysia.

He is Director of UTM-Low Carbon Asia research centre and Steering Committee member on Sustainable cities in Malaysia under UTM-MIT USA program.

He is a member of Chartered Institute of Logistic & Transport and Board of Town Planning Malaysia. He received Bachelor Urban & Regional Planning, UTM, MSc Construction Management, Heriot Watt University, Edinburgh, and Doctor of Engineering, Toyohashi University Technology, Japan.

His current research areas of interest are in urban sustainability - low carbon/ green city planning, building carbon emission reduction and consensus building.



Realizing GHG Emission Reduction Pledges

Dr. Ucok Welo Risma Siagian, Institut Teknologi Bandung (ITB), Indonesia



Indonesia sets out a 26% emission reduction by 2020 and 29% emission reduction by 2030, both below the country's baseline emissions at the corresponding year. The 2020 reduction target has begun to be implemented since 2012 through government programs called RAN GRK (National GHG Mitigation Action Plan). The 2030 emission reduction target, which is the Indonesian INDC, was submitted to UNFCCC in September 2015. Action plan of this INDC is not yet elaborated.

Emission reduction pledge is a good start to achieve low carbon development. We hope the next decade will be the true dawn for the realization of the pledges. There are many things need to be done in this regard. Institutional arrangement for handling climate change challenges needs to be adjusted to include the newly formed Directorate General of Climate Change Control of the Ministry of Environment and Forestry. This Directorate is expected to take central role in organizing national discussion of climate change stakeholder to delineate the Indonesian INDC into transparent, specific and appropriate action programs in line ministries and other stakeholder. The design of the action programs must enable the implementation of the program's MRV. Being a non-Annex I country, climate concern has not yet been

fully internalised into the Indonesian development agenda. We hope that the next decade will be the starting decade when climate concern has become an integral part of the national development agenda. Such internalization will enable the government to develop climate policies and strategies that will eventually lead the country to a low carbon economy.

To facilitate economic growth, in the near term the government is focusing on infrastructure development in all sectors, including electricity sector which will add its generation capacity up to 35 GW in the next five years. More than 60% of these new generators will be coal power plants. In order to achieve INDC targets and in support to low carbon economy, it is expected that the government to reconsider this coal-based electricity generator capacity addition plan and re-allocate its resources to switch from coal to less carbon emitting energy systems (renewable energy, natural gas, nuclear).

In the area of land use, Indonesia has been facing domestic as well as cross border problems due to the recurrent and devastating forest and peat fires in the past years. We hope this problem has been solved in the next decade and Indonesia could utilize its forest resources sustainably.

Action from Cambodia



Cambodia's action after COP21

Dr. Hak Mao
Ministry of Environment, Cambodia

Cambodia is expected to move out of the least developed country status in the coming years due to her significant and stable economic growth. The country is envisioned to reach the status of an upper-middle income country by 2030 and a high-income level by 2050. At the time of enjoying economic prosperity, Cambodia has experienced the adverse impacts of climate change due to her low adaptive capacity and limited both technical and financial resources.

Cambodia has been working closely and actively with the world communities to address climate change impacts. Although per capita GHG emissions of 0.23tCO₂eq./year in 2000 were regionally and globally insignificant, Cambodia's participation in the global efforts to reduce GHG emissions is important to promote a greener development path, while contributing to holding the increase in the global average temperature to well below 2 °C above pre-industrial levels. The country prepared the first ever Climate Change Strategic Plan (2014-2023) in order to develop Cambodia towards a green, low-carbon, climate resilient, equitable, sustainable, and knowledge-based society.

Additionally, Cambodia prepared her Intended Nationally Determined Contribution (INDC), which balances both adaptation and mitigation actions. The document was submitted to the UNFCCC in late 2015. Cambodia is expected to reduce GHG emissions into the atmosphere of around 3,100ktCO₂eq. by 2030 through implementing some mitigation measures in energy industries, manufacturing industries, transportation, and others under the INDC and when the technical and financial support are available.

Action from Thailand

Roadmap to achievement of Thailand's INDC

Dr. Bundit Limmeechokchai
SIIT Thammasat University, Thailand



On 1st October 2015, **Thailand** submitted its new climate action plan to the UN Framework Convention on Climate Change (UNFCCC). This Intended Nationally Determined Contribution (INDC) comes in advance of new domestic actions on climate change. Thailand's INDC includes both mitigation and adaptation plans. For example, Thailand have launched a new carbon tax scheme in the transport sector, which contributes to 20-25% of national CO₂ emissions. Effective on January 1, 2016, passenger vehicles releasing more than 200 grams of CO₂ per kilometre will be taxed at a rate of up to 40 per cent of a vehicle's price compared to those classified as eco-friendly models. In addition, the 2016 action plans for Thailand's Transport Infrastructure Development have been approved by the cabinet, which include integrated nation-wide transport system. These actions will lead to not only shifting toward efficient transport systems, but also reducing fossil dependency.

Thailand also revised its Energy Efficiency Plan (EEP2015), Alternative Energy Development Plan (AEDP2015), and Power Development Plan (PDP2015). The action plans in EEP2015 aim at energy intensity reduction of 30% by 2036 while AEDP2015 will lead to substitution of fossil fuels in final energy consumption of 30% by 2036. Moreover, the actions on renewable electricity generation in PDP2015 are complied with AEDP2015. Renewable electricity will share about 20% in the nation-wide installed capacity in 2036. In addition, the actions on Thailand's Green Industry have been promoted. The Green Industry is the manufacturing firm that commits to environmental friendly and sustainability goal by developing on production process and environmental management including corporate social responsibility throughout the supply chain. If implemented successfully, these actions will result in achievement of Thailand's INDC

Action from Myanmar



Post CO21: and Environmental Conservation and Addressing Climate Change in Myanmar

San Win (Ph.D. candidate in Environmental Technology at KMUTT)
Ministry of Environmental Conservation and Forestry, Myanmar

Myanmar is the one amongst the 196 parties to the UNFCCC (UNFCCC, 2014) and is well-known for its especially friendly society and plenty of natural resources and pleasant topography from reef to ridge. It has been ranked 2nd with Global Climate Risk Index-CRI score of 14 (S. Krefl, 2014).

Environmental conservation and addressing climate change movement are being driven by the terrible experience with natural disasters specially Cyclone Nargis which hit the Ayeyarwaddy Delta in 2008 and resulted in a death toll of 138,000 people in local communities and had an economic impact of 2 % of Myanmar's GDP (UN-Habitat, 2015), and Cyclone Giri in the Rakhine Coastal Zone in 2010.

Environmental Conservation Department under the Ministry of Environmental Conservation and Forestry is playing a critical role in terms of environmental conservation and addressing climate change. A 2nd national communication (SNC) is being prepared in cooperation with UNEP's and GEF's fund since 2014.

Myanmar submitted to UNFCCC a report on Intended Nationally Determined Contribution (INDC) in 2015 to meet its commitments at COP 19. In terms of law enforcement and successful implementation, National Environmental Policy, Strategy Framework and Action Plan for 2016-2030 development was initiated in cooperation with UNDP in 2014 and developing national climate change strategy under the Myanmar Climate Change Alliance (MCCA) with technical cooperation of UN-Habitat, UNEP and financial support of EU/GCCA.

After participating in the COP 21, Myanmar people were informed about the National Environmental Quality (emission) Guidelines and Environmental Impacts Assessment Procedures on 29 December 2015 (ECD, 2015). This is a milestone on the road as Myanmar meets its expectations to be a nation committed to sustainable development.

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Action from P.R.China

China's Action

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Institute of National Environmental Studies (NIES)



As **China** will become a moderately developed country in 2030, its per capita emissions are expected to substantially higher than the world average levels without mitigation policy intervention. To cut emissions as required by China's latest Intended Nationally Determined Contributions (INDC) or even more ambitious mitigation targets such as 2-degree, China should take actions as early as possible. It must strengthen the regional emissions targets.

China is a country with a unique administrative system in which the national targets could be allocated at the local levels

Action from Lao PDR

Beyond COP21 actions from Lao PDR

Ms. Oulavanh Sinsamphanh
National University of Laos



Lao PDR has been facing with climate-vulnerable; however, the country's greenhouse gases (GHG) emissions were only 51,000 Gg (INDC,2015) in the year 2000, which is negligible compared to total global emissions. Despite this, Lao PDR has ambitious plans to reduce its GHG emissions while at the same time increasing its resilience to the negative impacts of climate change. The goal for Lao PDR is to make the transition from a Least Developed Country (LDC) to a middle income country by 2030 supported by inclusive, stable and sustainable economic growth whilst alleviating poverty. The government has set direction and policy on climate change through the decisions of Plans Revolutionary Population Party Congress and National Social Economic Development Plan 7th for (2010-2015) and 8th for (2016-2020) recognized climate change as a risk factor affecting future development and poverty reduction.

Lao PDR aims to increase the share of renewable energies to 30% of the total energy consumption in 2025. To reduce the importation of fossil fuels, the Government outlines a tentative vision to reach 10% of the total transport energy consumption from bio-fuels. Lao PDR recognized Clean Development Mechanism CDM, Joint Crediting Mechanism JCM and REED+ projects are important and high potential to promote climate change mitigation through the promotion of renewable energy project, energy efficiency project, reforestation projects.

According to Climate Change Action Plan of Lao PDR for 2013-2020's vision, goals and key initiatives is: "To secure a future where Lao PDR is capable of mitigating and adapting to changing climatic conditions in a way that promotes sustainable economic development, reduces poverty, protects public health and safety, enhances the quality of Lao PDR's natural environment, and advances the quality of life for all Lao People". In addition to the overarching strategy set out in the National Climate Change Strategy, climate change action plans for the period 2013-2020 define mitigation and adaptation actions in the sectors of agriculture, forestry, land use change, water resources, energy, transportation, industry and public health.

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- 4. *Renewable Energy Development strategy in Lao PDR 2011*

through administrative means. However, when setting the regional targets, it must also take into account regional equality. On the other hand, the command and control policies should be complemented with the market-based instruments such as emission trading among different regions and sectors.

To enhance the regulation and supervision of a nationwide emissions-trading market, China must improve the reporting and verification of emissions data. Furthermore, to achieve the regional and sectoral emissions targets, China should not only rely on optimizing industry structure and restricting its energy intensive industry output, but also incentivize low-carbon style consumption and uptake of low-carbon technologies in the power and end-use sectors, especially in underdeveloped regions where more energy intensive industries are located or will be transferred.