1. What are the session key findings? What are the new Lesson(s) learned / Scientific progress (since AR5 release, if relevant)?

   a. By 2050 Asian Region will assume a large share of population, GDP and CO2 emission so there is need for its emergence as low carbon society.
   b. There is need for engaging local researchers and other actors to work out reasonable low carbon pathway.
   c. Important research question is how socio economic growth aspirations and low carbon growth aspiration be matched?
   d. Is leapfrog development possible?
   e. AIMs model based results show to avoid half of emissions over the period 2050 ten action programmes are needed: hierarchically connected compact cities, train and water transport for interregional mobility, material use efficiency, use of sunlight and wind in space design, local production and consumption, low carbon local resource based energy systems, low emission agricultural technologies, sustainable forestry management, technology and finance and governance.
   f. China’s baseline peak is in 2040. 2degree peak is in 2020-2022. Economic structure optimization, energy efficiency, nuclear, renewable, CCS are all needed, consumption based and land use change based emission reduction need to improve.
   g. In regional equity issue per capita emissions in MT CO2 are widely varying with US 17.02, EU 7.1, China 6.7, India 1.7.
   h. While in total electricity generation China and crossed US in 2010 Russia, India and Brazil are way below by a factor of 4.5 approx.
   i. Official aspirations in India for energy supply sector is to peak in coal based capacity additions by 2030 although by 2050 there will be a growth by factor of 6 compared to 2012. Highest share of solar in capacity addition is envisaged. There is need for move away from subcritical plants to supercritical in new capacity addition. Current enhanced energy efficiency policies for industries can deliver low carbon growth but global carbon price can generate more action across all sectors to deliver further avoidance of CO2 emission.
j. Although substantial decoupling is already happening in various sectors by way of catching up with world best practice technologies still potential exist, potential for technology deployment exist in city scale projects as well, waste sector having maximum potential.

k. India has taken positive steps in creating national clean energy fund to finance many domestic actions.

l. One major challenge is adaptation to heat stress can lead to increase in space cooling demand enormously which needs strategic action for mitigation as well.

m. Governance in multilayered structure is emerging but needs more coordination.

n. In Brazil increasing stakeholder involvement is increasing for climate change related scenario building effort.

o. Scenarios with and without carbon tax exist for Brazil. Distributional impact on social groups show need for inclusive stakeholder consultations to get the scenarios implemented.

2. What are the major knowledge Gaps and Research Needs identified in the session?

- Adaptation and maladaptation implications of regional low carbon pathways
- Transformative change based pathway development e.g., cycling scenario development
- Socio –technical change and complexities are often not included and addressed, as pathway developments are mostly technology driven, this disables understanding of barriers clearly.

3. Did the session discuss/identify promising approaches in the fields of Adaptation and Mitigation, or both?

The session aimed to explore the interlinkages between adaptation and mitigation in the context of regional low carbon pathways – in other words, it sought to apply an adaptation and developmental lens to an area that is traditionally the domain of mitigation. A central question posed was whether the low carbon pathways being developed also constituted climate-resilient development pathways.

4. Are there take-home messages from the session?

(When relevant, please specify targeted group of stakeholders. For example, policy-makers / COP21 negotiators, practitioners (experts, etc.), NGOs, private sector, citizens, media, etc.)

Discussion in the session revealed that this issue, as set out above, is an under-explored area, certainly in the context of discussions of integrated assessment modeling.

5. Are there Important Quotes from the session?

“It is possible for India to grow faster in Low carbon way” (Joyashree Roy)

6. Please include any other remark that you might have.