Leveraging the 'Co-benefits' of Renewable Energy in India

A thematic track on "Leveraging the 'Co-benefits' of Renewable Energy in India" focused on integrating the co-benefits presented by climate change mitigation action into policy was organized on 11th February 2019 by TERI in collaboration with The Institute for Advanced Sustainability Studies (IASS). The developing world is faced with three major challenges— those that have social, economic and environmental dimensions. Developing robust public health systems, electricity access provisioning, creating employment opportunities remain national priorities. The 'co-benefits approach' demonstrates as crucial to developing countries, highlighting the multiple opportunities presented by climate action to supplement these key national priorities. The co-benefits approach aims at studying, encapsulating and replicating positive externalities of climate change mitigation action. The co-benefits, in the context of India, were narrowed down after several stakeholder discussions with key Indian ministerial representatives including the Ministry of Finance, NITI Aayog, Ministry of Power and the International Solar Alliance. This thematic track was based on these co-benefits highlighted by three major research studies on the themes of – energy access, employment and air pollution & health, conducted by TERI and Council on Energy, Environment and Water (CEEW).

Ms. Arunima Hakhu, Research Associate, TERI welcomed the lead discussants and participants following which the theme was set by Mr. R.R. Rashmi, Distinguished Fellow, TERI. He gave the introductions for the session and spoke about the three dimensions of co-benefits of renewable energy in the Indian scenario which lies in the terms of energy access, employment sector and the public health based co- benefits related to it. He spoke about the challenges and constraints related to the shift of the power sector to the renewable technologies in India. He introduced the three research teams studying different aspects of the Co-benefits study and highlighted the key points of these studies to help in strengthening our policy planning in this context.

Dr. Karsten Sach, Director General, Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, Germany gave the introductory remarks of the session and talked about how the international initiatives and protocols provide ways for national policy implementation. "Co-Benefits provide an argument with the jobs and health benefits and drive policy for sustainable development", he said.

He mentioned that the biggest challenge is to involve all the stakeholders and to convince them to come together in facing climate change. So in a way the co-benefits studies provide us an argument for the shift towards renewables with the associated job opportunities and the health benefits related to it. He stated that the co-benefits associated help in convincing society and various institutions involved and to get everyone on board and make it happen.

Dr P C Maithani, Advisor, Ministry of New and Renewable Energy, India gave his remarks on the co-benefits approach and mentioned how such studies help the policymakers to see the whole picture. He stated how scientific studies provide the numbers apart from the

economic costs and capture the important things which are not quantified otherwise. These studies help in articulating the issues properly to guide the stakeholders and the policy makers in covering all the dimensions related to policymaking. “We need to create balance from economic losses from renewable sources with the job creation in renewables for a sustainable development”, he said.

After the introductory remarks, the session was followed by the presentations given by the three research groups of TERI and CEEW based on the ‘Co-benefits’ approach, sharing the research findings of their studies. The three study groups assessed the co-benefits of renewable energy in India under three energy scenarios i.e. business as usual (BAU), Intended Nationally Determined Contributions (INDC) and Ambitious (AMBI). BAU scenario represents climate policies rolled out till 2016, and an ambitious high GDP growth as envisaged by the Government of India. INDC scenario includes various climate policies and targets adopted in India’s INDC submission, while AMBI represents high mitigation ambition (beyond INDC & towards an overall aim of keeping temperature rise well below 2 degree Centigrade), keeping development of the country at the forefront.

Ms. Bigsna Gill, TERI, gave the presentation highlighting the co-benefits assessment of secure and reliable energy access showing the future of mini-grids in India. Their study was based on making an economic case for electricity access provisioning through off-grid renewable energy solutions versus grid-based electricity. Their study was based on the case study of solar mini-grids in Hardoi, Uttar Pradesh. Their findings included the fact that mini-grid consumers pay significantly higher per unit charges, and in some cases, in the absence of grid connectivity or poor connectivity, they fall back to using limited lighting services.This systemic failure never allows for capturing latent demand.

Mr. Neeraj Kuldeep from CEEW presented the study assessment of employment potential in power sector in India. This study, done by CEEW in collaboration with Skill Council for Green Jobs (SCGJ), aimed at estimating the net jobs created across renewable energy generation value chains, and the consequent capacity building and skilling needs evolving in job markets. Their findings tell us that renewable energy technologies tend to be more labour intensive than conventional technologies and that the rooftop solar sector, given the small and distrusted installation, creates significantly higher job-years per MW than any other technology. And, as we shift from coal-based generation to renewables, the coal-mining sector would be impacted the most.

Dr. Anju Goel and Mr. Souvik Bhattacharjya from TERI gave the presentation on assessment of health benefits related to a less carbon-intensive power sector in India. Their study was based on the regional impacts of shifting to renewable energy technologies on mortality, quality of life and the improvement in ambient air quality. The projected PM_{10} emissions decrease between 2031- 2051 due to LPG penetration in the residential sector, adoption of BS-VI fuel and technology in the transport sector, and introduction of stringent standards for industries and power plants. The scenario analysis suggests that the air pollutant concentrations and associated health impacts are expected to rise from 2016 to 2051, in a BAU scenario. In INDC and Ambitious scenario (which were designed primarily with climate change mitigation perspective) there will be substantial co-benefits both in terms of air quality and health impacts.

After the studies were presented, Dr Sylvia Borbonus from IASS spoke to the audience about the crucial need of an inclusive and high level political buy-in for a co-benefits approach to be implementable. She also spoke about the need to develop approaches to make such studies relevant in policy design and practice, through opportunities and engagements with political stakeholders. She drew examples from South Africa, one of the first partner countries where the COBENEFITS project was implemented, which has imbibed a just transition of the energy sector, a form of a co-benefits approach. Ms Charlene Rossler from RENAC then spoke about the need for having a platform to discuss and design such inclusive approaches, that take into consideration the opportunities and challenges existing on ground, and how training workshops could exist to address this. She then disseminated the 2019 plan for trainings and discussions to be held under the aegis of the global project.

This was followed by closing remarks and vote of thanks to the participants from Mr R.R. Rashmi, who highlighted the need for conducting studies on the co-benefits of climate change mitigation action, above and beyond the aforementioned co-benefits.
He stated that these studies clarify issues and raise new questions for further research and draw attention towards the constraints faced today. In the concluding remarks, Mr. Rashmi talked about how the co-benefits approach gels up with the overall sustainable development goals. And how the sustainable development matrix, along with co-benefits matrix, together evolves a broader indicator for sustainability.