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EU-INDIA CLEAN ENERGY & CLIMATE PARTNERSHIP

India-EU Clean Energy and Climate Partnership (CECP)

Event on Sustainable Buildings

WSDS, 11 February 2019, India Habitat Centre

At the World Sustainable Development Summit (WSDS) 2019 a 2 hours **EU-TERI** event on Sustainable Buildings was organized. The building sector is an important sector in the area of clean energy, energy efficiency and climate action, and in the area of resource efficiency / circular economy. Some facts mentioned in the session:

- India will add close to 1.0 billion m^2 of New Commercial Buildings and more than 3.0 billion m^2 of New Residential Buildings by 2030;
- Energy demand will increase more than 2 times in 2030 (980 TWh) and 3.5 times (1565 TWh) in 2040 from 2013 level (440 TWh);
- Currently the building sector in India accounts for 29-30% of the total electricity consumption and around 437 million tonnes of CO_2 emissions. The commercial sector is growing with 8% and the residential sector with 5% per year.
- The Government of India Housing for All Scheme schedules to build 20 million houses by 2022.
- Cooling: the global stock of room air conditioners is scheduled to grow from about 1.2 billion units today to 4.5 billion units by 2050, of which around 1 billion in India. *Residential cooling*: According to the India Cooling Action Plan, approximately 8% of the current households have room air conditioners. This is anticipated to rise to 21% and 40% in 2027/2028 and 2037/2038 respectively; *Commercial cooling*: Current (2017-18) commercial cooling demand is around 30 million TR. Expected to grow around 4.3 times by 2037/2038. India has one of the lowest accesses to cooling across the world with a per capita annual consumption of 69 kWh (world-average is 272 kWh). Around 5.2 million air-conditioners were sold in 2018, which is expected to grow to 7.7 million in 2020 with a growth rate of 15% per year.

This event aimed at providing a holistic overview of the main challenges for ensuring sustainable buildings reducing the use of energy, resources, pollution, waste and greenhouse gas emissions. It focused on:

- **Energy Efficiency** and the implementation of the Energy Conservation Building Code (**ECBC**).
- **Green Cooling** and the **India Cooling Action Plan** (ICAP): The (ICAP) provides a 20-year perspective (until 2038) with recommendations to address the cooling requirements across sectors and ways and means to provide access to sustainable cooling for all.
- **Green building design and resource efficiency**: Sustainable building design strategies can limit energy demand from buildings and resource efficiency.

Short summary of the session

- The session **was introduced by Mr. Sanjay Seth**, Senior Director and Senior Fellow, TERI, welcoming the speakers and audience to the session and sharing statistics underpinning the importance of ensuring resources and energy efficient buildings. **Mr. Edwin Koekkoek**, Counsellor, Energy and Climate Action, Delegation of the EU to India, then informed the audience about the concrete activities between the EU and India under the Clean Energy and Climate Partnership and about the **new 3 year CECP project**.
- The **panel discussion** that then took place was moderated by **Mr. Nicolas Fornage**, Country Director India, Regional Director for India and Bangladesh, AFD. The moderator first gave the floor to **Mr. Rajeev Ralhan,** Director, Clean Energy, PwC setting the scene (providing inter alia the relevant statistics).
- The panelist, **Mr. Saurabh Diddi,** Director, BEE, informed the participants about the 'Building Passport' scheme of BEE, for individual buildings. He spoke about the importance of designing and deliberating

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policies through a data driven approach. Mr. Diddi informed the participants about the main programs and policies of BEE and the sector specific targets.

- The panelist **Mr. Jake Schmidt,** Managing Director, International Program, NRDC shared experiences of the implementation of the ECBC in the states of Telangana and Andhra Pradesh. He mentioned inter alia the demonstration of online compliance systems adopted in 50 buildings in Telangana and initiatives as regards cool roofs for residential buildings. He stressed the need of increased consumer awareness.
- The panelist **Mr. Dr. Satish Kumar**, President and Executive Director, AEEE stressed the importance of optimizing the cooling energy demand from the building sector, referring to the Green Cooling initiative and Thermal Comfort for All. He emphasized the need for designing a more thermally comfortable building stock.
- The panelist **Mr. Cornelius Rhein**, DG CLIMA, European Commission, addressed the European initiatives and the implementation of the Kigali amendment. He stressed the need for skill development of service providers, awareness about the use of green refrigerants and a certification program for service technicians. Retrofitting systems in existing buildings is much more complicated than designing them efficiently from the start. He spoke on the need for consumer awareness.
- The panelist **Prof. Ashok B. Lall**, Ashok B Lall Architects, focused on the construction of buildings calling them "embodied energy explosions". The construction of taller buildings requires much more energy because of their high steel content. Smaller buildings should be prioritized. Solar PV should be integrated. Consumers should learn how to demand greener sustainable designs from the developers while ensuring affordability. He mentioned the use of timber, bamboo and other biomass as building materials as a step towards a sustainable construction practice. Consumers deserve thermally comfortable homes.
- The panelist **Ms. Shruti Narayan**, Lead Green Building Program- India, IFC more collaboration needs to take place between the stakeholders, government and private sector, to uptake and upscale green sustainable technologies in India. She then spoke about the on-going EU-IFC collaborative program on ecocities in India. She also stressed upon the need to promote energy efficient materials.
- The panelist **Mr. Manohar Miryala**, AGM, NHB, talked about the different initiatives of the National Housing Bank in the area of the building sector, to enhance green practices and support development of sustainable habitats. He focused on 3 major initiatives, which are the DFID Affordable Housing Programme, the KfW- NHB Energy Efficient Housing Programme and the SUNREF Programme.

After brief discussions with the audience (inter alia on the use of bamboo and on consumer awareness) and after one concluding remark by each panelist, the moderator summarized the **main findings** of the session:

- The challenges related to sustainable buildings are technical, institutional and financial.
- Energy efficiency: the need for promoting energy efficient materials, for sharing ECBC implementation experiences between states, for promoting the cool roof concept.
- Cooling: need for holistic approach, for reducing the demand for cooling through design, for policies allowing for green refrigerants in cooling applications. The importance of addressing servicing (skills, awareness about green refrigerants, standards, certification programs).
- Design: the need for addressing embodied energy as the mantra for all future construction. Construction materials should be more local.
- In general: the trends need to change fast. Affordability and scale is needed, crucial is consumer awareness, demanding thermal comfortable and affordable homes (same or lower costs). Cooperation is needed and business models to promote market uptake of green and sustainable construction.