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EVENT

Ahmedabad's Climate Resilient City Action Plan unveiled at U20 Mayoral Summit

GANDHINAGAR: The Chair City of the 2023 edition of U20, Ahmedabad, organised the two-day U20 Mayoral Summit at Mahatma Mandir on July 7-8, 2023. The summit set a new record by hosting over 90 global cities, 430 delegates, and 300 partners and industry experts. The U20 communique received record-breaking endorsements from 105 global cities, marking a significant achievement.

The inaugural event was attended by Bhupendra Patel, Chief Minister of Gujarat; Kaushal Kishore, Minister of State for Housing and Urban Affairs; Kiritkumar Parmar, Mayor of Ahmedabad; Abhay Thakur, G20 Sous Sherpa; and Manoj Joshi, Secretary of the Ministry of Housing and Urban Affairs. Senior officials from convenor organizations—Dr. Kevin Austin, C40 Cities, and Emilia Saiz, United Cities and Local Governments (UCLG)—were also present.

During the summit, the Climate Resilient City Action Plan (CRCAP) of Ahmedabad was launched by the Chief Minister of Gujarat. This plan aims to transform the city into a resilient, sustainable, and climate-smart urban centre. Ahmedabad is one of India's forerunner cities in developing such a comprehensive strategy.

A city that balances its greenhouse gas emissions by using renewable energy sources and putting carbon reduction measures in place is referred to as being "net zero." Increased energy efficiency, electrification of buildings and transportation, and an overall reduction in energy consumption are all crucial approaches for achieving this objective. The CRCAP comprises six significant sectors: Transportation, Solid Waste Management, Water Supply and Sanitation, Urban Greening and Biodiversity, Disaster Risk Reduction and lastly, Energy Supply and Demand. The plan specifies the goals, indicators, actions, responsibilities, timelines, roles, costs, and benefits for each sector that must be met in order to achieve net zero resilience by 2070. In this regard, Ahmedabad intends to raise the proportion of renewable energy to 50% by 2030 as well as reduce its total consumption of energy by 30%. The city intends to do this by encouraging rooftop solar installations, implementing energy-saving measures in buildings, businesses, and street lighting, and investigating waste-to-energy initiatives. By 2030, Ahmedabad aims to expand the percentage of public transportation to 60% and lowering greenhouse gas emissions in the transportation sector by 40%. According to the CRCAP research, this will need to extend the Bus Rapid Transit System (BRTS), introduce electric buses and cars, and improve facilities for pedestrians and cyclists.

The Climate Resilient City Action Plan represents a crucial milestone in the city's journey towards net zero, demonstrating a commitment to climate goals and becoming a model for other cities to follow. ■

Best Practice - GIFT City, Gandhinagar

Waste as potential for energy

GIFT City is an ambitious financial and technological hub situated in Gandhinagar, the capital of Gujarat, India. Designed as a global financial centre, GIFT City offers state-of-the-art infrastructure, world-class amenities, and a conducive business environment. It has not only emerged as a financial and technological hub but also as a pioneer in solid waste management. It showcases circular economy in practice, how waste generated in cities can be used to produce energy and compost material for green spaces.

GIFT city sets a state-of-the-art technology in Solid Waste Management, the first city in the country to execute integrated Solid Waste Management system where collection, transportation and disposal occurs under one roof. It boasts of a vacuum based waste collection technology and a mechanised waste segregation system that require minimal human intervention – Automated Waste Collection and Transport System of the city. With its advanced waste management systems, including segregation, recycling, and efficient disposal methods, it sets a benchmark for sustainable practices in urban development.

Procedure of waste management

The Automated Waste Collection System (AWS) in GIFT City, Gandhinagar follows a streamlined process that revolutionizes waste management. This system utilizes advanced technology and infrastructure to ensure efficient and sustainable waste collection. Following is an overview of the four-step process involved in the AWS in GIFT City.

Process of waste collection and transport

Step 01: The waste is thrown into disposal chute

The first step in the process is waste segregation. At the source, waste is separated into different categories such as organic waste, recyclable materials, and non-recyclable waste. The segregated waste is collected through different disposal chutes placed in very floor of the buildings and in public spaces as shown in the first photograph. These chutes shall be automated and citizen may use their electronic cards to open and access these disposal chutes.

Disposal chutes in buildings and in public places for waste collection

Step 02: Automated Waste Collection Units

GIFT City is equipped with strategically placed automated waste collection units. These units are designed to handle specific waste streams and are connected to an underground waste collection network. Each unit has separate inlets for different waste categories, ensuring proper disposal and minimising contamination.

Underground Utility Tunnel (7.6m x 6.2 m) for transport

Step 03: Underground Waste Collection Network

The automated waste collection units are connected to an extensive Underground Utility Tunnel (7.6m x 6.2 m) for transport. This network consists of a series of pipes that transport the waste from the collection units to a centralised waste management facility. The waste is transported through the network using a pneumatic pressure difference created by a vacuum system where the waste is sucked through pipes at a speed of 90 km/hr.

Step 04: Centralized Waste Management Facility

The waste received from the underground network undergoes further processing and disposal through the bunker conveyer. The waste is segregated as dry waste and wet waste. The dry waste goes to the ballistic separator deck which separates it into 2D waste and 3D waste while the wet waste is passed through a compactor machine, that is the bioneer compost system – fertilizer control order. This produces 100kg of compost per day which is used for the maintenance of the green spaces in the city.

Waste to Energy Plant

Burning of waste is one of the major contributors to the emission of Carcinogenic gases as well as GHG emissions. The waste-to-energy plant not only produces energy from the waste but also avoids this emission from incineration of waste and saves land cost of landfills.

Plasma Pyrolysis Plant

This plant caters to the Polymeric Waste of the city. This included the Bio-Medical Waste and other hazardous waste. The post-processing emissions of this plant are well under CPCB norms.

Advantages of the automated waste collection and transport system:

- Introduction of state-of-the-art technology
- The Automated system needs only three people to handle the waste of the entire city hence minimises human interventions and error
- Energy potential while the high-rise

buildings help reduce the vertical transportation cost of the system
- For other cities, the design of the system can be customised to suit their needs
- The project provides consultancy to other municipalities such as Amravati
- Eliminates incineration of waste to reduce emissions and minimise the negative impact on air quality as well as health
- Minimises the carbon footprint
- Utilises waste to produce energy, and promote circular economy.

Conclusion

The automated waste collection system not only enhances the cleanliness and aesthetics of the city but also reduces the reliance on manual labour and minimises the carbon footprint associated with traditional waste management methods.

This innovative system in GIFT City serves as a model for other cities, demonstrating the potential for advanced technology to transform waste management and create a more sustainable future. ■

EVENTS

Webinar on 'Rising Vulnerability to Heat Stress'

DELHI, INDIA: In order to facilitate capacity and knowledge building of GCoM South Asian cities and beyond on technical understanding of heat stresses and effective strategies to reduce it in cities, ICLEI South Asia as the GCoM South Asia Technical Coordinator, with support of the European Union Delegation to India and GCoM India Coordinator, organised a webinar on 'Rising Vulnerability to Heat Stress: Actions and Strategies for South Asian Cities' on the 27th of April 2023.

Heat-related socioecological risks are among the most significant challenges posed by rising global temperatures. They frequently result in potentially reparable but significant economic damages, and irreparable human losses. The risk is particularly high for approximately 60% of the working population in South Asia that is engaged in outdoor activities, which serve as the mainstay of South Asian economies. To respond to the growing challenges related to extreme heat, governments and policy bodies need to implement strategies that will improve building design, urban planning and emergency planning through regulations, incentives, pilot projects and climate resilience programmes.

The webinar discussed the need to improve cities' capacity to safeguard human lives during heat extremes. The participants were also made aware of the need to implement building and urban design solutions to reduce urban heat island effect and its benefits. Participants included representatives from four South Asian countries, one South East Asian country and one East Asian Country, comprising of urban development experts, climate change professionals and government representatives. Presentations by experts on - negative impacts caused by heat stresses on ecosystems, human health, productivity and livelihood; the Urban Cooling Plan for Rajkot developed by ICLEI South Asia; the approach and steps to formulating Nagpur's Heat Action Plan; benefits of cool roof solutions through case studies. ■

Championing Climate Action through the State Climate Fellows Initiative

INDIA: Climate Group in partnership with Swaniti Initiative started the State Climate Fellows initiative in 2021. This initiative aims to enhance the technical capacity of Indian states by deploying dynamic young professionals in relevant state departments to offer policy inputs, conduct research, identify opportunities for knowledge exchange and interdepartmental coordination as well as explore collaboration between states, external agencies and networks.

The fellows use their expertise to champion state climate strategies, streamline climate action and build alignment between states and the Government of India's climate action ambition.

Two key achievements from the first phase of the fellowship are, First, the fellows assessed the gaps between the states' climate activities and targets as well as opportunities and interventions in line with national targets. Second, climate discourse by authoring case studies, participating in external forums and joining the Under2 global coalition to share their learnings.

The youth climate fellowship is unique and shows how young professionals can contribute to Indian states on their climate journey and enhance their climate action ambition towards a net zero future for all. ■

Accelerating Climate Action through Climate Finance workshop by NIUA

MUMBAI, INDIA: On May 18-19, 2023 representatives from GCoM South Asia signatories in India, Bhutan, Sri Lanka, Nepal, and Bangladesh gathered to discuss, learn, and share knowledge on climate finance and funding mechanisms alongside EU delegations, the National Institute of Urban Affairs (NIUA) and technical partners as part of the GCoM South Asia Regional Workshop in Mumbai, India. AIILSG as the networking and governance co-ordinator , supported NIUA in city engagement and communication activities. This workshop represented an opportunity to increase climate finance knowledge and understanding, so that cities can access and effectively utilise funding mechanisms to accelerate their urban climate actions. Cities got an opportunity to build greater partnerships and collaboration with organisations across the region in this workshop, which is a significant milestone of the GCoM Asia project with the Climate Centre for Cities (C-Cube), NIUA that was launched by the European Union in January 2021 to facilitate and support city climate action in Asia.

Training modules, presentations and field visits were organised to discuss various types of climate financing mechanisms—such as public, private, and international schemes—in consultation with EU and Asian partners. Technical partners from Europe and India presented key climate finance tools and skills for cities to access various funding opportunities. Group activities were also organised to foster deeper conversations between city representatives and technical partners in sharing climate finance best practices and providing guidance on accessing the right financing for urban climate mitigation and adaptation projects. The workshop took place at Taj Mahal Tower in Mumbai, and culminated with a tour of urban climate related projects across Mumbai, led by C-Cube. ■

State of Cities Report launched

The 'State of Cities: Towards Low Carbon and Resilient Pathways' report was prepared as a collaboration effort between the ICLEI South Asia and the National Institute of Urban Affairs (NIUA) and it was released during the U20 Mayoral Summit spotlight session 'Building Climate Responsive and Resilient Cities' on July 8, 2023 in Gandhinagar, Gujarat.

The report serves as a compelling narrative and informative resource, shedding light on the climate-related issues confronting 15 Indian cities from a global perspective. Through captivating graphics, the report presents a comprehensive overview of electricity consumption, greenhouse gas emissions, and energy-related issues within these cities, while also highlighting the climate initiatives and strategies being implemented.

The report is aligned with the objectives of the Climate Smart Cities Assessment Framework (CSCAF) by offering valuable insights into the climate challenges faced by urban areas and showcasing the measures being undertaken to address them. ■

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