

Cooling Smart Cities, Rajkot leads the way

- Rajkot, first Indian city to include district cooling in their Smart City Plan
- \$49 million district cooling project in Rajkot to save up to 50% of Co2 and electricity, significantly reducing harmful refrigerants and reducing peak demand up to 30MW.
- District energy systems can reduce primary energy consumption for heating and cooling of urban buildings by up to 50% and improve air quality.

Rajkot, Gujarat, February 7, 2019 – District energy is coming to Smart Cities in India kicking off with Rajkot, Gujarat, the first Indian city to include district cooling in their Smart City Plan. A workshop ‘Cooling Smart Cities - The Arrival of District Energy in India’ in Rajkot was co-organised by UN Environment, ICLEI South Asia, Energy Efficiency Services Limited (EESL), the International Solar Alliance and hosted by Rajkot Municipal Corporation.

Giving the keynote address, Mr Jagadip Narayan Singh, Chief Secretary, Gujarat said, *“I welcome the city of Rajkot leading efforts on district cooling, building on the example of GIFT City to demonstrate how it should be an integral part of all Smart City planning. Rajkot is an engineering hub and district cooling will give it a boost. The state government is fully behind this initiative and will support it financially. So will the state utility and GEDA.”*

The purpose of the workshop was to raise awareness on district energy in India and consider how other Smart Cities, campuses, townships and industry hubs can incorporate a district energy approach into their urban planning. It saw participation from senior officials from Ministry of Housing and Urban Affairs (MoHUA), Ministry of Environment, Forests and Climate Change (MoEFCC), Government of Gujarat, Municipal Corporations of Thane, Pune and Rajkot, EESL and ICLEI South Asia.

Addressing the participants at the workshop, Ms. Bina J Acharya, Mayor, City of Rajkot said, *“We are working to make Rajkot a ‘Climate Resilient City’ and have already prepared an action plan and committed to reduce carbon emission. Rajkot’s energy consumption inventory shows that electricity consumption in building sector is highest due to cooling and lighting load as such, Rajkot is now moving forward with district cooling to reduce energy consumption in the cooling sector.”*

Adding to this Mr. Banchhanidhi Pani, Municipal Commissioner, Rajkot said, *“Rajkot welcomes the support set out today by the State government and partners of UN Environment’s District Energy in Cities Initiative to realize our ambitions for district cooling. We are exploring mandatory connection for large buildings to help de-risk investments in this cost-effective and smart approach to cooling.”*

UN Environment, in partnership with ICLEI South Asia, has worked with Rajkot to prepare the ground for a district energy system and the long-term planning processes that can accelerate this efficient approach to power, heating and cooling. This has led to the development of a \$49 million district cooling project in Rajkot, saving up to 50% of Co2 and electricity, significantly

reducing harmful refrigerants and improving reliable power sources for the local grid – reducing peak demand up to 30MW.

“Today is an important day on the road towards sustainable cooling in India. As India’s cities expand it is imperative that district energy is assessed and incorporated into urban planning at an early stage. We urge the government of India to incorporate district energy as a central technology for smart cities, following the example of Rajkot,” said Atul Bagai, Country Head, UN Environment, India.

By 2050, scenarios show that space cooling could reach 28% of India’s electricity demand and 44% of peak load. With the addition of electric mobility, India’s 100 smart cities of the future will be some of the largest consumers of electricity in the world. Cities globally are proving that a city entirely dependent on the state/national electricity grid is not smart and are dramatically rethinking how to localise power consumption, integrate energy systems, supply low-carbon heating and cooling and recycle energy and resources within a city to maximise efficiency.

Local district energy plants provide high-efficient power, cooling and hot water to a city’s buildings and industry. These plants use a cost-effective combination of trigeneration, industrial-grade electric chillers, recycled waste heat from industry and power plants, solar cooling and free cooling from seas, rivers and lakes. In addition, the district energy plant can house large-scale thermal storage, eliminating use of grid electricity if necessary and can safely use environmentally friendly refrigerants.

This workshop showed the power of municipal leadership in unlocking investment in sustainable energy projects in India such as district cooling and the respective roles of state and national government in unlocking this crucial technology for India’s future.

“The rapid evolution of technologies such as UN Environment’s District Energy has influence on the development of Smart Cities. Trigeneration in Smart Cities can address India’s future energy needs of 1250-1500 MT of oil equivalent by 2030,” said Saurabh Kumar, Managing Director, EESL

The UN Environment-led District Energy in Cities Initiative has been working with partners such as EESL and in cities such as Rajkot, Thane and Amaravati with projects under development to advance this technology into the mainstream allowing cities to take some control of energy production and demand. While Thane was the first pilot city to incorporate district energy cooling, Rajkot being the second pilot city has become the first to incorporate district cooling in its Smart City plan.

Additional quotes from Partners

International Solar Alliance

Mr. Upendra Tripathi, Director General, International Solar Alliance

Majority of Smart Cities are exploring solar projects, but Rajkot is one of the first to look at district energy systems. We support Rajkot’s efforts in this, and we will explore with the city and UN Environment how renewables such as solar PV and solar cooling can also be integrated into its plan.”

ICLEI

Mr. Emani Kumar, Executive Director, ICLEI, South Asia

The demand for space cooling in the buildings sector in India is projected to grow over eleven times in the next 20 years (from 2017-18, India’s Cooling Action Plan). Rapid assessments by

ICLEI South Asia in five Indian cities indicates that District Cooling Systems can reduce cooling power demand by over 50%, in dense urban areas with significant anchor loads and diverse consumers. While supporting Thane city in developing a district cooling system as a retrofit measure, with support from the United Nations Environment District Energy in Cities Initiative, we are also exploring the scope for developing a district cooling system in Rajkot, as envisaged in the Smart City Plan.

BROAD

Mr. Akshay Mangal, BROAD India

District Energy is future. It is responsibility of all to adopt this system to avoid sudden power crisis. Less carbon footprint through CCHP projects is environment friendly. We congratulate UNEP and EESL for this initiative. BROAD has executed world's top DES projects and thus we extend full support to district energy in cities initiative.

Thermax

Mr. Mandar Erande, Global Sales Head for Cooling Business, Thermax Ltd.

Addressing the integrating cooling in decentralised district energy systems like trigeneration and Waste to energy for District Cooling Initiatives for Cities through combination of environmentally friendly thermally activated technology and newer low GWP conventional systems could be a way forward for mitigating the challenges for the rapidly growing cooling needs in Urban areas. Thermax with its innovative cutting edge thermally activated cooling technologies and global energy integration experience are willing partners to make this happen in Rajkot and India and other cities of India. We have recently inaugurated a state-of-the-art factory to expand our capacities for these solutions for India and Global markets at Sricity, Andhra Pradesh.

Danfoss

Mr. Ravichandran Purushothaman, President, Danfoss India says “Danfoss has partnered with UN Environment to promote District cooling in India where Rajkot was one of the 5 cities where rapid assessment was done to find out the viability. We are pleased to see the progress and Rajkot taking the next steps for execution. Having implemented these solutions across the globe we are looking forward to transferring this knowledge and help cities in India adopt District cooling which can bring down the operating costs by 40% while the solutions are climate and environment friendly. Given the fact that around 30 people are moving to cities every minute in India, we need to work towards carbon neutral cities and District cooling is one of the apt solutions which needs to be adopted by every city in India”.

NOTES TO EDITORS

About UN Environment

UN Environment is the leading global voice on the environment. It provides leadership and encourages partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. UN Environment works with governments, the private sector, civil society and with other UN entities and international organizations across the world.

About District Energy in Cities Initiative

The District Energy in Cities Initiative coordinated by UN Environment is a multi-stakeholder partnership that assists developing countries and cities to accelerate their transition to lower-carbon and climate resilient societies through promoting modern district energy systems. The Initiative is an accelerator of the Sustainable Energy for All (SEforALL) Energy Efficiency Accelerator Platform and aims to double the global rate of energy efficiency improvements for heating and cooling in buildings by 2030 and quantify the corresponding decrease in

greenhouse gas emissions. The Initiative currently provides technical support to cities in four pilot countries (Chile, China, India, and Serbia) and ten replication countries (Argentina, Bosnia and Herzegovina, Colombia, Egypt, Malaysia, Mongolia, Morocco, the Seychelles, and Tunisia). The Initiative has a membership of 46 partners from across the DC industry including operators, manufacturers, utilities, NGOs, international organizations and industry associations.

In India, the Initiative has been working to unlock investments and build momentum for district energy (particularly district cooling and trigeneration) at the city-level, state-level, within industry and with the relevant national ministries.

For more information, please contact:

Sophie Loran, Communications Officer, Energy & Climate Branch - Sophie.Loran@un.org

Jasleen Dhanota Kanwal, UN Environment, India – jasleen.dhanota@un.org