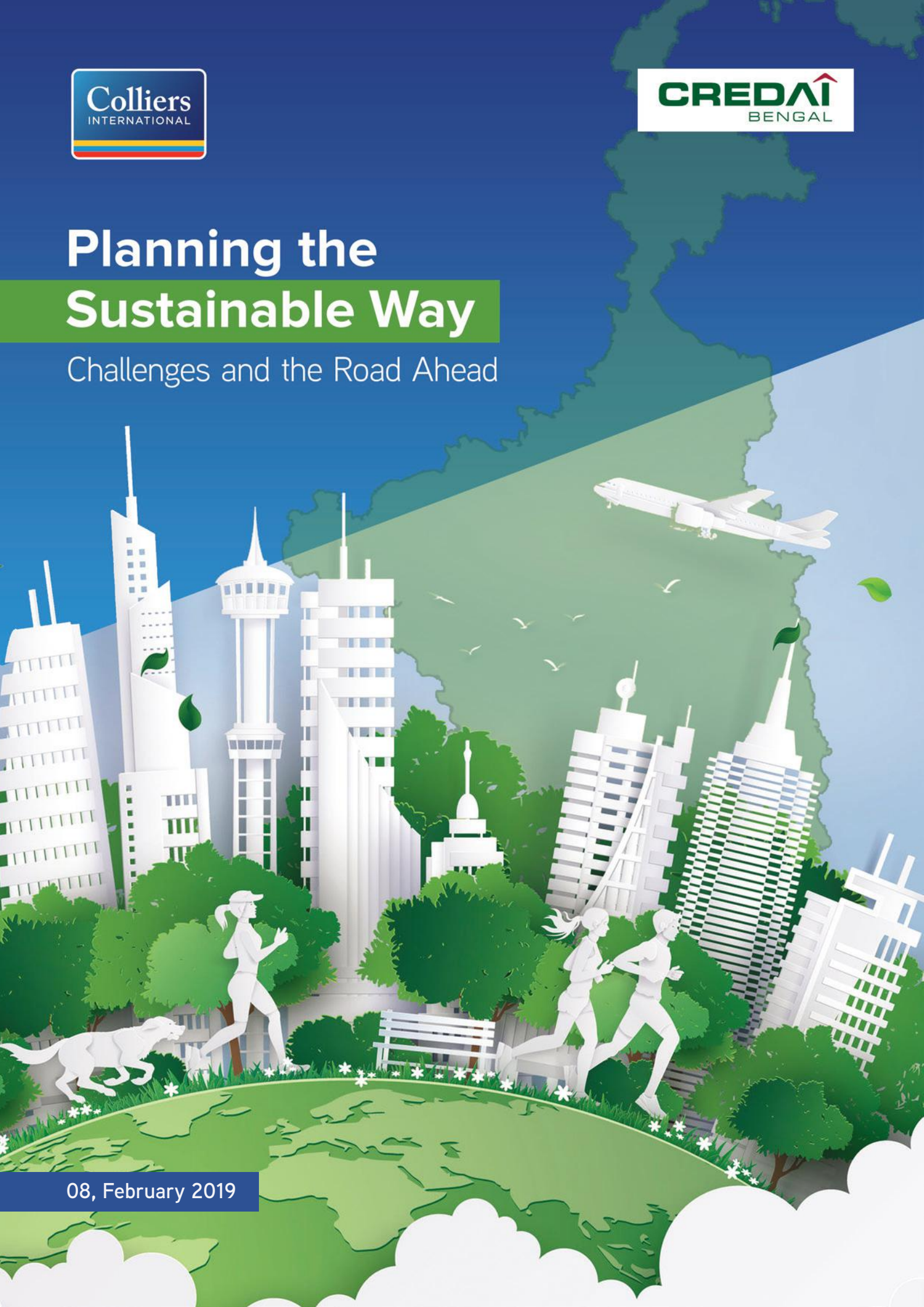
Colliers INTERNATIONAL

CREDAI BENGAL

# Planning the Sustainable Way

## Challenges and the Road Ahead



08, February 2019

# FOREWORD

## Mr. Joe Verghese

Managing Director
Colliers International India

Infrastructure planning and sustainable development go hand in hand and none can exist without the other. For planning to be a success, human involvement is mandatory. India is home to 1.34 billion people, almost 18% of total mankind, and one of the few countries witnessing urbanization at the rate of +34%. India also ranks at 112 out of 156 countries and these three factors in tandem offer an immense opportunity to the developed countries and the global agencies to focus their sustainable efforts on India.

India has improved from its 2017 ranking of 116 and that's a step in the right direction with the potential to achieve the global sustainability targets for the entire mankind, for the next several generations! Thus, it is absolutely imperative for the world to support India with technical wherewithal and financial support in its endeavor to have sustainable development for all.

India has shown the inclination to exceed the sustainable targets and has come a long way in implementing the Sustainable Development Goals (SDGs). There is a focused policy level thrust by the government for the key initiatives like Smart Cities. NITI Aayog has been at the forefront in tracking India's progress in the implementation of the SDGs. However, we need a lot more integration between the Centre and the States for policies, funding and implementation as we go forward. The vast differences in the infrastructure, resources and scale of development across various states require each state to have specific plans and policies and the Centre needs to continue to support all the States and varying policies.

Realizing this need for decentralization of planning, the NITI Aayog tracked the progress of all States and UTs on 62 Priority Indicators selected by the SDG India Index last year. One such State that has made significant progress in achieving its SDGs is West Bengal. The State has been in the forefront of green planning and development and is one of the few states that formed the Green City Mission way back in 2017 to focus on environment protection and sustainable development. West Bengal's serious concern for air quality, water resources, waste management and climate change issues has been an integral part of its planning to promote sustainable growth and healthy life style for its citizens.

I thank CREDAI Bengal for giving us this opportunity to partner with them for the Bengal Global Business Summit- 2019. I hope that Colliers International India's report on '**Planning the Sustainable Way: Challenges and the Road Ahead'** brings to the forefront, the key progress that India, particularly, the State of West Bengal, has made in sustainable planning.

# FOREWORD

## Mr. Nandu Belani

Chairman, Belani Group
& President, CREDAI Bengal

Infrastructure and real estate taken together is a major sector that propels far-ranging development of the economy. Over the past 7 years we have witnessed how the West Bengal State Government has laid great emphasis on strengthening existing and building new infrastructure. This has included under its ambit, townships, road networks, industrial infrastructure etc. Compared to 2010-11, physical infrastructure has grown by almost 4 times.* Thus it has also become important to understand the sustainability quotient of such proliferation of infrastructure.

As industry influencers and entrepreneurs, I believe urban and regional planners have to guide this change. It is important for urban planning professionals to create revitalization projects, addressing population growth, environmental degradation, and resource scarcity. Planning is also necessary in new and existing communities, which require extensive development and improved infrastructure, including housing, roads and highways, water and sewer systems, schools, health care facilities, and parks.

In short we have to keep on striving to create and implement responsible planning-policies to match our global peers.

Over the past four years, it has been an immensely educative journey to have co-partnered with the West Bengal Government for hosting a sectoral session at the Government's annual investment summit 'Bengal Global Business Summit' (BGBS). It has helped industry and government peers dissect a plethora of significant aspects of real estate and infrastructure.

The sectoral session this year, with knowledge partner Colliers International will provide a platform to discuss and deliberate on the opportunities, unique advantages in investing and development of an ecosystem which can propel a resilient and environment-friendly growth of West Bengal.

I thank Colliers International for collaborating with us as Knowledge Partner for this sectoral session at BGBS 2019 and I hope that this report on 'Planning the Sustainable Way : Challenges and the Road Ahead' will essay the urgent need for responsible management of resources leading to sustainable development.

*As per a World Bank Report 2016

# India is urbanising rapidly, with an estimated 2017 urban population of **34%**, compared to the **11.4%** in 1904[1].

By 2030, the country is expected to be home to seven mega-cities with a population above 10 million[2], nearly 600 million Indians or 40% of the country's population will likely live in cities. This demands a systemic change in urban planning and sustainable development, otherwise there will likely be tremendous pressure on civic infrastructure leading to environmental degradation and air pollution. Therefore, holistic city planning is required to deal with issues such as water supply, electricity, waste management, traffic snarls and pollution. Urban planning in India needs to be a creative and scientific process to meet the enormous goals of upgrading the cities to support the growing population, while providing momentum to support the government's 2015 Smart Cities Mission at the same time.

**Fig. 1** Urbanisation in India


India's current green building footprint is about 5.3 billion square feet (492.6 million square meters)[3], ranked second only to the United States. Policymakers, developers and corporations are increasingly identifying the environmental, social and economic benefits of adopting green initiatives.

Various state governments including Punjab, Haryana, West Bengal, Maharashtra (see Figure 2) offer incentives such as a higher floor space index, financial assistance and faster clearances for green developments. Making a building green focuses on water efficiency, energy efficiency, the sustainability of materials and resources and indoor environmental quality control.

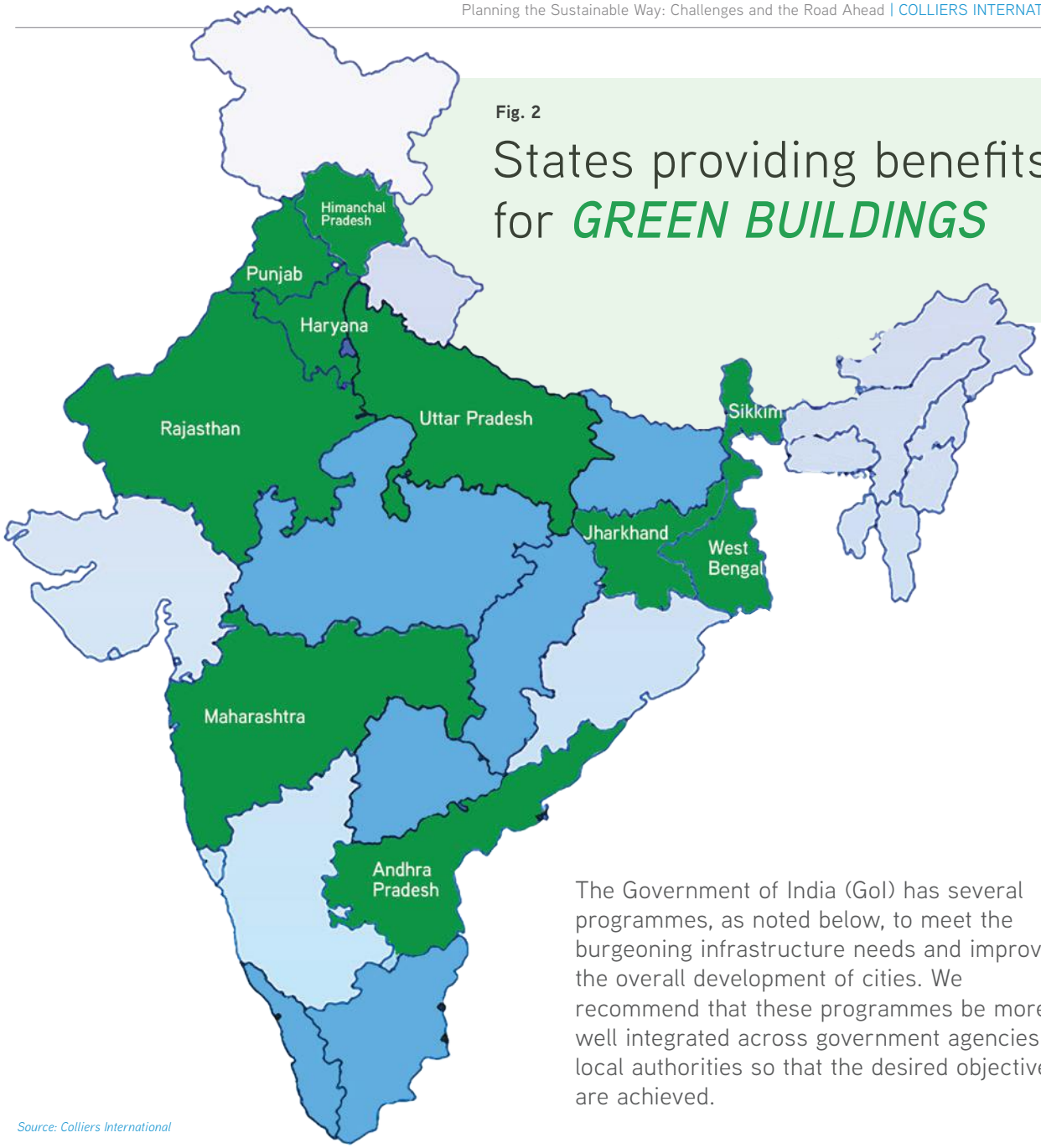
Our estimates, along with industry analysts indicate that the initial incremental capital investment of 8-10 % in a building's green development can be recovered in two to three years due to the large savings in energy and resource costs.[4]

Sustainability has been taught as the core of urban planning and architecture for years, yet widespread adoption has been lacking. Although the Green Rating for Integrated Habitat Assessment (GRIHA) organisation has devised a rating programme in India, it is exclusively for the residential sector, and only the Central Public Works Department of India has included its mandate.

[1] World Bank
[2] UN World Cities Report 2016
[3] IGBC
[4] See also: India Achieves 5 Billion Sq. Ft. Green Building Footprint. CII - Indian Green Building Council, 2018

Fig. 2

# States providing benefits for *GREEN BUILDINGS*




*Source: Colliers International*

The Government of India (GoI) has several programmes, as noted below, to meet the burgeoning infrastructure needs and improve the overall development of cities. We recommend that these programmes be more well integrated across government agencies and local authorities so that the desired objectives are achieved.

- Smart Cities Mission
- Housing for all
- Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
- HRIDAY (National Heritage City Development and Augmentation Yojana)
- National Mission on sustainable habitat
- Clean India mission

As most development in India is led by the private sector, we believe that there must be both push and pull to increase the green building footprint in India. Incentives and governmental programmes should push developers to increase construction of green buildings while clearer articulation of the benefits of occupying green buildings should pull in end-users.

# Adopting the United Nations Sustainable Development Goals

In 2015, the GoI made a commitment at the UN General Assembly to implement the Sustainable Development Goals (SDGs). It involved making cities smart, sustainable and engines of progress by 2030 in addition to the goals of ending poverty, providing housing and basic services to all by the early 2020s. The National Institution for Transforming India Aayog (NITI Aayog) has been entrusted with the responsibility of overseeing the implementation of SDGs while the Ministry of Statistics and Programme Implementation is entrusted with developing a national indicator framework for measuring the targets associated with the SDGs.

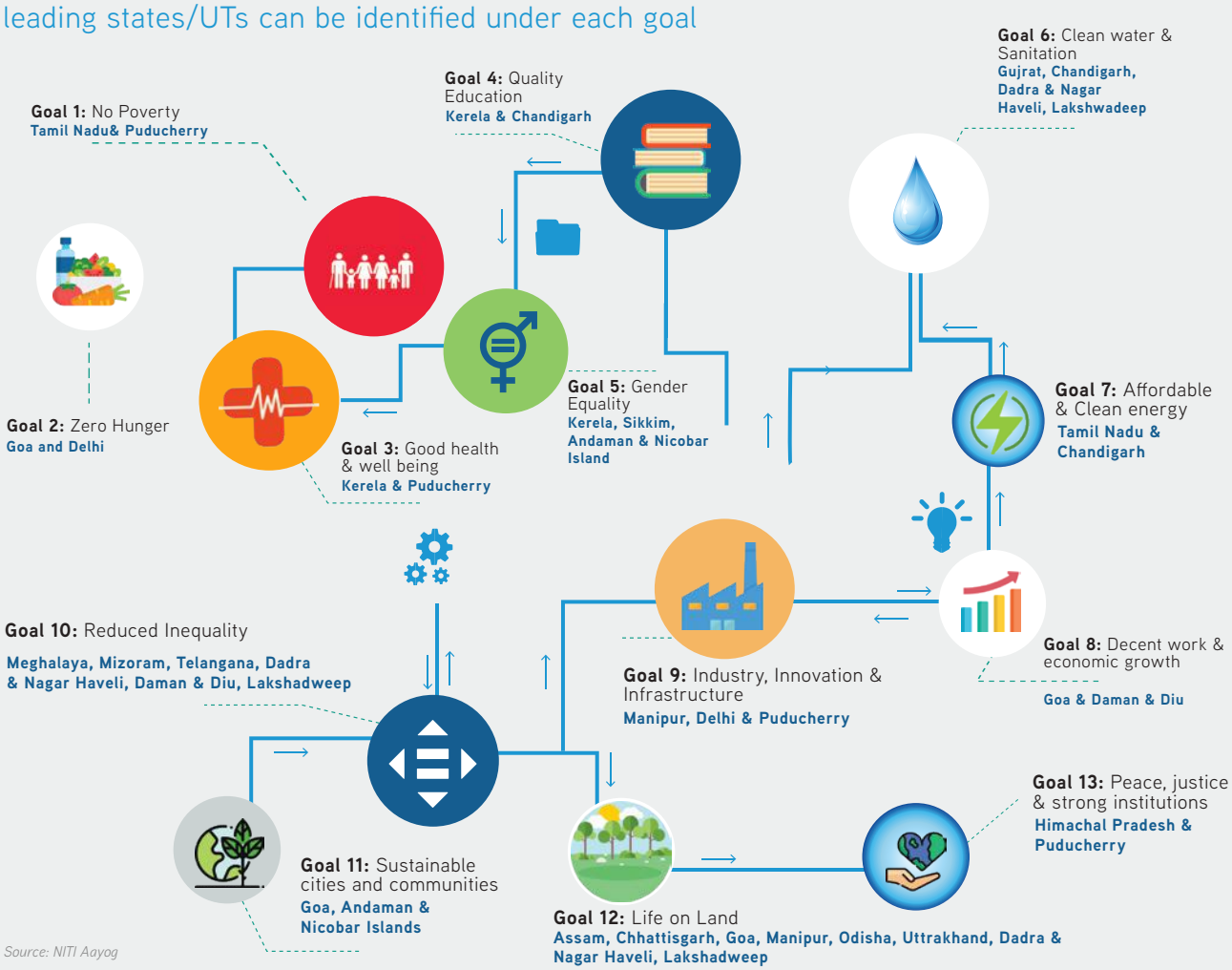
The SDGs are a comprehensive development agenda to be implemented by the countries based on their national circumstances and feasibility. The SDGs consist of 17 goals with 169 targets as a continuation of the Millennium Development Goals[5]. India is focused on the goals for which data is available.

At the end of 2018, NITI Aayog tracked the progress of all states and union territories on 62 priority indicators selected by the SDG India Index. Below is the snapshot of the performance in Figure 3.

**Fig. 3**

## Performance Snapshot of SDGs

When reading SDG India Index Scores within each goal, leading states/UTs can be identified under each goal




*Source: NITI Aayog*

[5] The Millennium Development Goals were the eight international development goals for the year 2015 that had been established following the Millennium Summit of the United Nations in 2000, following the adoption of the United Nations Millennium Declaration

# Smart Cities Mission

## The Smart Cities Mission, together with Housing for All, is planned to facilitate implementation of the priority Sustainable Development Goals (SDGs), namely poverty, employment, and basic amenities.


The government aims to build 20 million affordable homes[6] for urban poor by 2022 and initiated the Smart Cities Mission in 2015 to sustainably develop 100 cities across the country making them citizen friendly by providing environment-friendly urban infrastructure where all smart facilities can ease their life.

The Smart Cities Mission is an urban renewal and retrofitting programme by the GoI with the goal of integrating city functions, efficiently utilising scarce resources and improving the quality of life. It is aligned with the SDGs and addresses issues relating to basic services including clean water and sanitation, inclusive city planning, development of physical and social infrastructure, recycling and reuse of waste, and use of renewables, among other factors.

In the three years to March 2018, the Smart Cities Mission utilised less than 5% of its total project budget, which has led to criticism of the lagging implementation. However, looking at it differently, with only 5% of the funds utilised[7] , the programme has not burnt through its budget. With 95% of the budgeted INR2.03 trillion (USD28.7 billion) still left, one can consider the initial spending as part of the implementation, returning deep insight and lessons for future projects. The successful implementation of the remaining budget can build on the experience of the first 5% of the budget, with city and area level plans firmly in place when further funding is allocated.

[6] Ministry of Housing and Urban Affairs, Government of India

[7] Smartcities.gov.in

# THREE FACTORS FOR SUCCESS

Colliers International believes there are three important factors for successful implementation of large-scale initiatives such as the Smart Cities Mission. First is the political willingness, with a policy framework being a subset of this factor. The second factor is financial strategies for implementation, and lastly technical wherewithal to execute the project successfully.

## Political will and policy framework

The Indian bureaucracy has shown a rare collaboration between the national government and the states, with the Prime Minister's Office and the national Ministry of Urban Development (MoUD) working in tandem with states and municipalities. By December 2018, most selected cities have developed a process to take the projects towards award, execution and commissioning.


## Identified funding sources

In the last three years, various marketing schemes, financing and implementation strategies for smart cities have been debated. Projects with steady and assured cash flow such as sewage treatment plants, toll roads, parking and health centres are easily marketable and can be financed through a Public-Private Partnership (PPP) model.

Funding of medium-term projects, such as exhibition and convention centres with inconsistent cash flow, should largely be managed by the national government and state schemes, as well as borrowing from various development banks. Funding for long term projects can come from charges levied for using smart facilities, user fees, impact fees and beneficiary charges, among other sources.

Currently it is difficult for Urban Local Bodies (ULBs) to gain access to credit to support the smart cities initiative due to their historically poor creditworthiness, lack of assets to be offered as collateral and opaque financial reporting. More recently, ULBs have started improving their financial transparency; however, the quality of reporting is inconsistent across the country. To continue the momentum of the smart cities project, the government has realised the need to improve the creditworthiness of ULBs. As ULBs' credit ratings improve, additional financing mechanisms like municipal bonds should become available.

The national government has two additional revenue streams, green bonds and infrastructure leases. Green Bonds are used to fund clean energy projects. Companies that raise money through these bonds must invest the proceeds in areas that are environment friendly such as renewable energy, waste management, clean transport or sustainable land use. Looking to the future, we expect the government to take advantage of concessions, including tax exemptions, to increase domestic demand for green bonds. Furthermore, issuing a sovereign green bond would be a clear signal of the government's support for sustainability and the environment, making green bonds more attractive to investors.

Monetizing infrastructure, converting non-revenue generating assets into sources of revenue, is an additional source of funding for smart cities. We recommend leasehold rights for land allotted alongside such infrastructure initiatives be on a 99-year lease, rather than the current practice of a 30-year lease. This would make these projects more investor-friendly and provide more certainty for investors looking for an eventual exit from these projects.

## Technological acumen

On the technology front, the Smart Cities Mission marries physical and technology infrastructure, where data analytics and advanced software automatically manage various functions including street lighting, water treatment plants and traffic.

Implementation of such a smart city requires massive bandwidth. The competitive information and communications technology (ICT) sector in India ensure bandwidth availability and competitive pricing. Late entrants like Reliance Telecom have forced other players to remove bottlenecks in their networks and reduce pricing, resulting in an expanding technology infrastructure which can support the ICT requirements of smart cities.

The technological expertise acquired from developing smart cities in India, combined with the existing Make-in-India programme and the easing of regulations on multinationals manufacturing in India have opened opportunities abroad. As domestic momentum for the smart cities initiative grows, India is poised to become the exporter of smart city. solutions after the first wave of smart cities is commissioned, starting in 2022-23.

# SMART CITIES.

## Planning for the next phase

With the political will and policy frameworks firmly in place, the teething hiccups already overcome and the project contracting, and funding mechanisms identified, the road ahead is leading to successful implementation of the Smart Cities Mission. We believe the critical factor for successful implementation is the transfer of ownership of the projects to private agencies. The private sector offers the capability, bandwidth not to mention the funding mechanism for execution and efficient implementation in a time bound manner.

# Kolkata

## Attempting to renew the health of the city

**West Bengal opted out of the Smart City Mission and initiated its own Green City Mission instead**

The Green City Mission envisages implementation of sustainable strategies to support overall city development. The Urban Development Department is the implementing agency for the Green City Mission in West Bengal, with the state government sponsoring the project.

The mission aims to focus on environmental protection and sustainable development across the city. In 2017, West Bengal's Green Cities Mission identified target areas and developed action plans. The mission aimed to trigger extensive development across 1,937 schemes at an estimated cost of INR6.53 billion[8] (USD92.2 million) in its first year of implementation. The schemes involve green space development, high mast lighting, sustainable public transport, installation of CCTV security, conservation of water bodies, development of road medians/ central reservation, landscaping and tree planting, among other projects.

The adoption of the Green City Mission and other green building programmes by the state government is planned to save resources and mitigate environmental impacts. Adopting guidelines and monitoring benchmarks are critical to the success of this project, and we recommend routine programme monitoring to ensure resource conservation and environmental goals are achieved.

The state government has also garnered investment from institutions and countries (see Figure 4) for development of the state and towards sustainability.

**Fig. 4** Noteworthy Investments in Sustainable Development

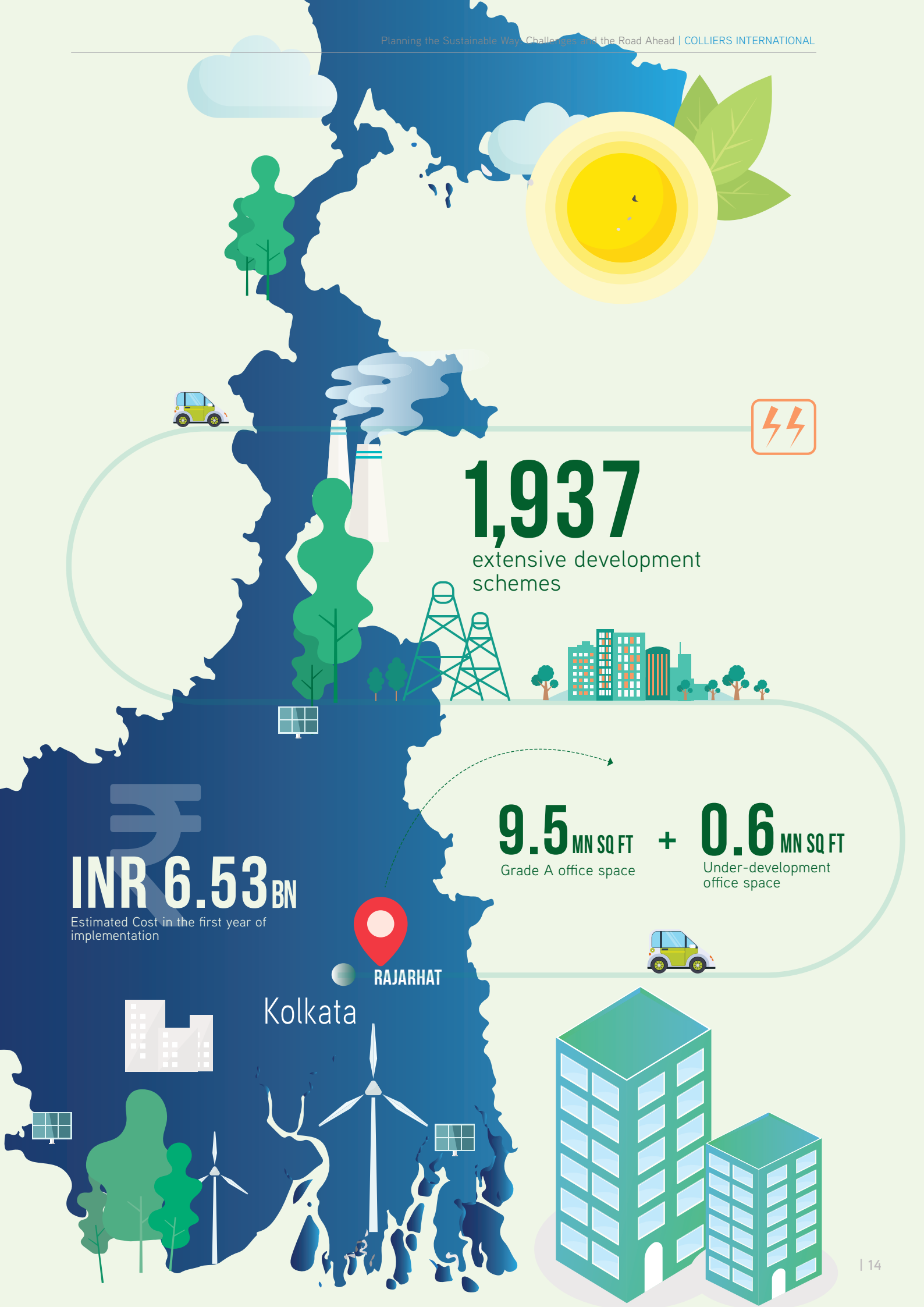
In **August 2018**, Asian Development Bank approved a financing package of **INR17.4 billion (USD245 million)** to provide safe, sustainable drinking water service to millions of people in three districts of West Bengal affected by arsenic, fluoride, and salinity. The project is planned to provide continuous potable water through metered connections to about 390,000 individual households in the districts of North 24 Parganas, Bankura and Purba Medinipur. This project plays a pivotal role in reducing poisoning from arsenic and fluoride while preserving groundwater and enhancing resilience to climate change.

In **April 2018,** Poland launched a new programme - the **'West Bengal Project'** to strengthen bilateral cooperation with India and facilitate greater collaboration in the mining sector. The proposed solutions are not only aimed at increasing mining output and productivity, but also relate to environmental sustainability and safety, clean coal technologies, energy generation, efficient transportation and other related areas.

*Source: Asian Development Bank, The Economic Times*

**West Bengal allows a 10% additional floor space index if developers adopt a green rating system. However, sometimes the incentives are not linked with actual building performancewhich may result in poor performance compared to conventional buildings. We recommend improved building monitoring and fines for non-compliance. The performance should be measured on a graduated basis, requiring improvement, not just adhering to a minimal standard.**

[8] Media report, West Bengal urban department

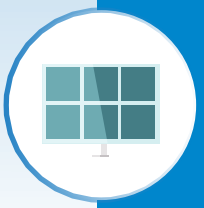

1,937
extensive development schemes
9.5 MN SQ FT
Grade A office space
+
0.6 MN SQ FT
Under-development office space
INR 6.53 BN
Estimated Cost in the first year of implementation
RAJARHAT
Kolkata

The satellite city of New Town, Rajarhat, is a high growth commercial area and under intense development. Currently it has 9.5 million square feet[9] (882,900 square metres) of Grade A office space with an additional 600,000 square feet (55,762 square metres) of office space under development, in addition to the new residential and infrastructure development. In areas with such intense development, construction and demolition (C&D) waste is often created in large quantities. We believe that sustainability should be infused in development practices, including stringent implementation of C&D waste management rules integrated in building by-laws. Emerging micromarkets require robust urban planning and should aim to minimise the impact of construction and rapid urbanisation. To achieve the Green City Mission goals, monitoring of building design and materials, use of energy efficient technology and compliance with the sustainability guidelines are essential.

The state government of West Bengal, which has shown serious concern for air quality, water resources and waste management, is now integrating climate change in its planning, to promote sustainable growth and a healthy life styles for its citizens. Figure 5 shows the list of initiatives that the state government is implementing.

**Fig. 5** Activities/Policies in Sustainable Development Space

## Renewable Energy



The State Government is planning to install a grid-connected solar roof-top PV system in government buildings including buildings of local bodies. All state government departments and all district magistrates have been involved in implementation of the programme. The West Bengal Renewable Energy Development Agency is the implementing agency for the programme.

## Clean Transportation

The Department of Environment is financing the introduction of 20 compressed natural gas (CNG) buses in the Asansol and Durgapur area as part of their clean fuel initiative. CNG vehicles are less polluting than diesel or petrol buses. The Durgapur–Asansol region has an abundant supply of coal bed methane, which should keep the fuel transport cost to a minimum.

## Waste Management

The Kolkata Solid Waste Improvement Project is an integrated municipal solid waste management system involving six municipalities around Kolkata. One compost plant in each municipality complements one common sanitary landfill and leachate treatment facility. The capacity of each compost plant is 153 tonnes per day and the most unique feature is the sharing of one sanitary landfill by all six municipalities.

## Adaptation

An Integrated Coastal Zone Management Project (ICZMP) project is being implemented by the West Bengal Department of Environment. The objectives of the project are to protect the livelihood of residents, to minimise damage in coastal areas, and to protect coastal ecosystem and biodiversity. The ICZM project covers the coastal region of South 24 Parganas and East Midnapore. Considering the impacts of the climate change in coastal belts, the successful implementation of ICZM should improve the resilience of the coastal community.

*Source: theclimategroup.org*

[9] As of Q4 2018

## Kolkata gets its green label!

New Town in West Bengal is the latest green city. The fast-growing satellite city has been recognised as a Green City by the **Indian Green Building Council (IGBC).** New Town acquired the green label for several reasons including:

The New Town Kolkata Development Authority launched **20 GPS-enabled waste management** vehicles. As discussed earlier, tracking and reporting progress is critical to meeting sustainability goals, and GPS helps municipal officials track the collection and transportation of waste.

The city has rolled out a fleet of **air-conditioned electric buses,** as well as four charging points.

New Town features a well-maintained and landscaped **Eco-Park,** incorporating various water bodies. The park's replicas of the seven wonders of the world have become a major tourist attraction.


The city also has **water ATMs at the Eco-Park.** Individuals/families staying at the township can go to the nearest ATM throughout the day to collect water at a lower price than available in the market.

The township has launched a **bike-share system,** increasing the opportunity for people to choose sustainable transport instead of taking cars.

ANNEXURE

# Case Study | Infinity IT Lagoon

LEED Platinum Rated Green Building, Certified by Indian Green Building Council (IGBC)

Total Area

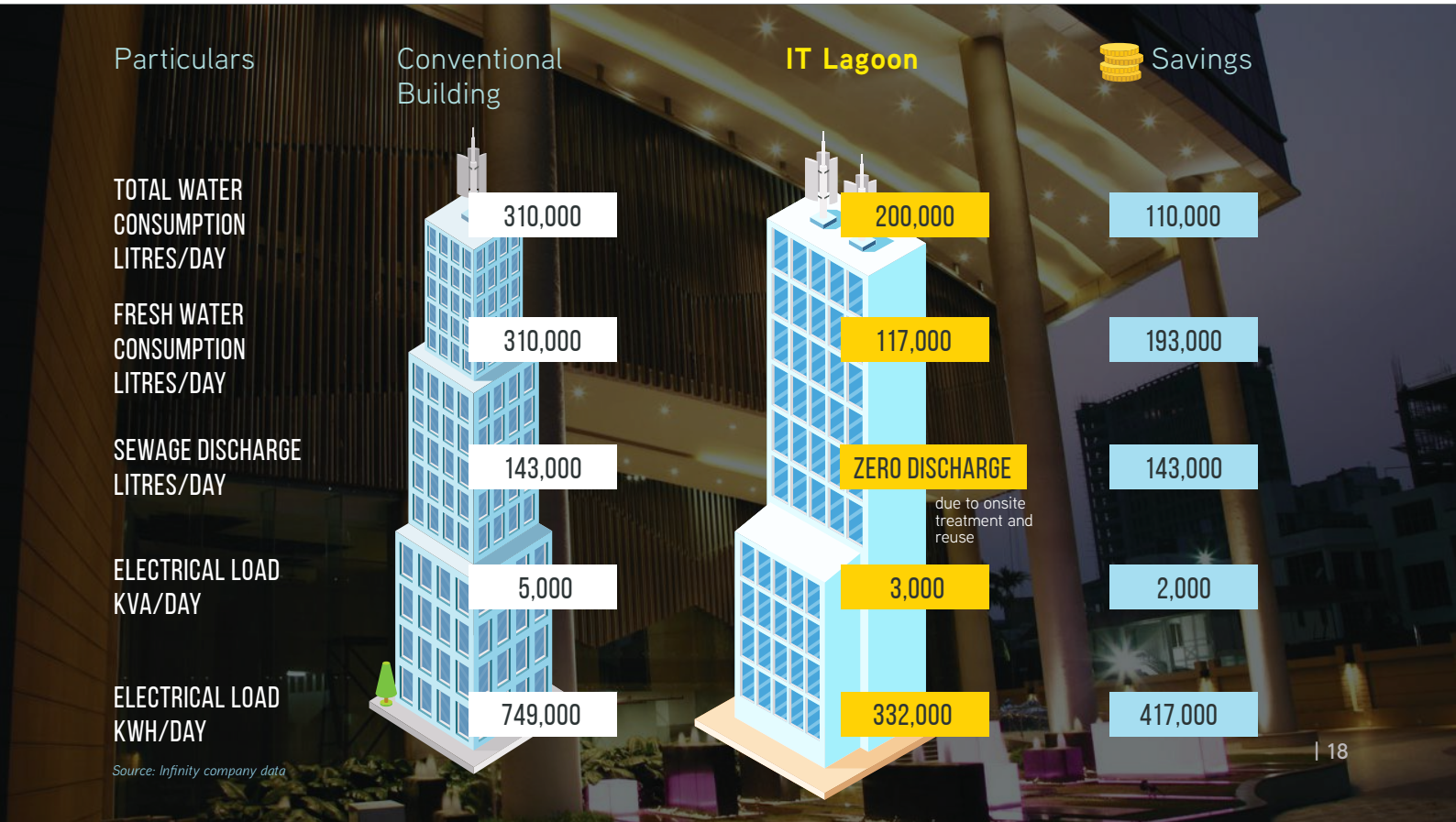
**447,000 SQ FT**

(41,545 square metres)

Infinity IT Lagoon is one of the first IGBC Certified Platinum Rated Commercial Green Buildings in Eastern India

## Various sustainable elements have been incorporated including:

- The building's open space allows glare-free northern light and controlled southern sun exposure. Utilising daylight and installed daylight controls reduce the need for artificial lighting along the interior perimeter of the building.
- The building's core has been designed on an east-west axis to block the harsh low angle sun and act as a buffer for the air-conditioned spaces.
- The efficient building envelope provides a suitable base for tenants to acquire LEED Commercial Interior certification.
- The building's white membrane roof minimizes heat gain that would contribute to the heat island effect.
- The building allows for an open plan interior environment that encourages a visual connection with the building's exterior spaces, including the 1,000 acre natural lake surrounding the building.
- Flexible, efficient Heating, Ventilation, and Air Conditioning (HVAC) and electrical systems have been employed building-wide so that the structure operates within the conservation goals outlined by the LEED Core and Shell version 2.0 framework.
- An integrated storm water management system is designed to reduce the impact of storm water runoff on surrounding waterways.
- Efficient plumbing fixtures and fittings are designed to reduce water use by more than 60% compared to conventional buildings.
- The building provides fresh air ventilation above the minimums required by the code and has systems in place that monitor the air quality, providing a clean, safe and healthy environment for tenants.




*Source: Infinity company data*

# Conclusion

India has exhibited strong intent to promote sustainable development through key initiatives such as the Smart City and Green City Missions and establishing specific standards such as GRIHA. With a robust framework in place, we believe that stakeholders, both public and private, should work towards adoption of the best practices and high standards of green rating.

From a public sector perspective, government agencies have done a credible job by providing a robust and integrated policy framework. However, we believe that slower adoption and execution of sustainable initiatives can be addressed by ensuring financial support and working in partnership with the private sector that offers capacity and expertise. The synergies should be well integrated between both the parties, government agencies and the private sector. And to that effect, strengthening the municipal credit market can play a critical role in developing a self-sustainable model wherein respective municipalities can support their respective jurisdictions. Adoption of commercially viable asset development frameworks (for instance, longer tenure leasehold rights on lands) should also go a long way in institutionalising the entire financial management framework at the municipal level.

The private sector needs to exhibit a higher willingness to adopt sustainable practices, especially low capital-intensive initiatives. Although corporations tend to be sensitive towards the environment and sustainability and have altered their workplaces to create a more healthy working environment, large scale adoption is lacking. Nevertheless, the change in mindset and awareness have increased, and we believe demand will increase as the evidence of the benefits of sustainability are more firmly established in India.

CREDAI Bengal is the West Bengal chapter of Confederation of Real Estate Developers' Associations of India (CREDAI), the apex body of real estate developers in India. (CREDAI has more than 12500 real estate developers as members, with a presence in 23 states and 205 cities). CREDAI Bengal is the organized representation of West Bengal's real estate sector, comprising 3 chapters in West Bengal with more than 450 members. Members comprise real estate developers engaged in the development of urban and social infrastructure projects (residential & commercial development including IT/ ITeS buildings, hospitals, hotels, logistics, malls and similar amenities). We collaborate with Government Departments and agencies to pursue issues related to the state's real estate development and consequently promote West Bengal as a significant investment destination. Encouraging and implementing a Code-of-Conduct for self regulation to all our members, we work with other CREDAI chapters to exchange best practices and help grow the real estate sector in Eastern India. CREDAI Bengal regularly organises events and exhibitions to propagate transparent communication between industry and consumer as well as to promote and exhibit real estate projects of members. It also organises knowledge sharing events for the benefit of its real estate stakeholders. CREDAI Bengal concurrently works at relationship building between industry and government in a bid to create a positive atmosphere for sectoral growth. We have welcomed the implementation of West Bengal Housing Industry Regulation Act (WBHIRA) in the state and look forward to ushering in a new era of ethical and transparent business practices in the real estate industry.

Colliers International Group Inc. (NASDAQ: CIGI; TSX: CIGI) is an industry-leading real estate services company with a global brand operating in 69 countries and a workforce of more than 13,000 skilled professionals serving clients in the world's most important markets. Colliers is the fastest-growing publicly listed global real estate services company, with 2017 corporate revenues of $2.3 billion ($2.7 billion including affiliates). With an enterprising culture and significant employee ownership and control, Colliers professionals provide a full range of services to real estate occupiers, owners and investors worldwide. Services include strategic advice and execution for property sales, leasing and finance; global corporate solutions; property, facility and project management; workplace solutions; appraisal, valuation and tax consulting; customized research; and thought leadership consulting.

Colliers professionals think differently, share great ideas and offer thoughtful and innovative advice that help clients accelerate their success. Colliers has been ranked among the top 100 global outsourcing firms by the International Association of Outsourcing Professionals for 13 consecutive years, more than any other real estate services firm. Colliers has also been ranked the number one property manager in the world by Commercial Property Executive for two years in a row.

Colliers International was the first International Property Consulting firm to be established in India. In India, we are present in 9 locations: Bengaluru, Mumbai, Gurgaon, New Delhi, NOIDA, Pune, Chennai, Hyderabad and Kolkata, with over 1400 professionals. Our offerings include services for Occupiers, Developers and Investors.

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# NOTES