

India's sustainable revolution



India's leaders have a bold national vision of urban renewal, industrial self-reliance and inclusive growth. We, at Mott MacDonald, want to help make that a reality.

Our teams of global engineering, management and development consultants, have a track record of applying world-class practices in urban planning, sustainable transport, manufacturing design, clean energy, skills development and public health.

From India's INR22bn sustainable urban transport programme; the 1,534km eastern dedicated freight corridor; the first national skills development project; to its rapid COVID-19 health and vaccine response, Mott MacDonald has been on the ground as a trusted adviser for more than 50 years.

Our multi-disciplinary expertise makes us a key partner to help execute India's national infrastructure master plan and mission to build 100 smart cities. We excel at using standardised funding, procurement and delivery models on large-scale development programmes to reduce risks, improve governance and optimise social, environmental and economic outcomes.

We also share the vision of the 'Make in India' initiative to build national self-reliance and inclusive growth by investing in a stronger, more competitive manufacturing and industrial base.

Our work on the 800km long Visakhapatnam-Chennai Industrial Corridor in Andhra Pradesh is a key example of how we are contributing to integrated industrial, infrastructure and urban development. Our cross-sector skills and connected thinking are critical to achieving the project's ambitious targets: boosting GDP by INR98bn and creating 11.8M jobs by 2035; promoting gender equality; driving climate resilience; and building sustainable transport, water, energy and IT infrastructure.

India's national plan for economic growth and prosperity offers huge potential to transform lives. Join with us to help build a brighter future.



We believe in driving change and creating long-term value by delivering projects that have positive social and environmental impact, contribute to the Sustainable Development Goals and combat climate change.

SS Acharya

Managing Director — South Asia

Better outcomes

Our projects are aligned with the Sustainable Development Goals on health, education, clean water, sustainable cities, industrial innovation, clean energy and gender equality.

370,000

tonnes of CO2 emissions

expected to be saved through the adoption of sustainable transport practices in five cities.

165M

litres of wastewater/day

collected and treated at upgraded sewerage plants in the Greater Kolkata area, reducing contamination of the River Ganges.

100,000

young people

from minority groups encouraged back into education and skills training as part of the Nai Manzil project.

11

cancer care facilities

built in Assam in two years, widening access to timely and affordable cancer treatment for 17,500 more people.

11.8M

jobs

estimated to be created by 2035 in the Visakhapatnam-Chennai Industrial Corridor, improving skills and gender diversity in the workforce.

8.8GW

solar energy capacity

created by our projects over the past five years, helping to shift India's energy profile towards renewables.



Our expertise

We are a US\$2bn organisation, employing over 16,000 people and delivering projects across the globe. We offer size, stability and a culture built on personal integrity and commitment to excellence.

Removing barriers to development

Our pan-India reach and cross-sector expertise make us a key partner of India's major development programmes, supporting the Government of India, the private sector and international finance institutions such as the World Bank and Asian Development Bank. Over the past 50 years, we have supported over 250 major projects with a value in excess of INR1trn.

Our people are creative thinkers who specialise in taking obstacles and turning them into sustainable infrastructure and development solutions. Using intelligent systems to create reliable public transport; driving project excellence where governance is weak; educating officials about sustainable development practices; and ensuring marginalised communities are not forgotten.

Driving industrial excellence

We work for world-class manufacturing and industrial firms – Nestlé, JCB, Asahi, Adani, SRF, JSW – delivering plants that meet the highest standards of energy and resource efficiency. Clients turn to us because we are global experts in green building design, industrial efficiency and climate resilience.

We ensure that clients achieve sustainable, long-term returns on their capital investments, mitigate climate risks and create better employment opportunities. And their success is enhancing India's competitiveness as a leading industrial hub and a location for international investment – that's a win-win.

Integrated urban development

We partner closely with policy makers and decision makers to meet the challenges of rapid urbanisation. We combine sector expertise in transport, energy, water, waste and urban planning with a commitment to poverty reduction and environmental protection.



Transforming public transport

Efficient, clean and safe public transport is critical for the success of India's cities and the wellbeing of its people. For 11 years, we have supported the Government of India to build sustainable urban transport systems – reducing air pollution, fuel consumption and road congestion.

Digital innovation

In five pilot cities, we advised on how to procure and implement intelligent transport systems for city bus services, giving real-time information about bus operations. In Mysore, a new centralised control centre can track 500 city buses using GPS, manage their movement and improve reliability. Passengers get real-time information about services from LED-display boards at 105 bus stops or on their digital devices. Reliable public transport means less use of private vehicles.



Real-time bus information encourages public transport use.

Greater efficiency

A total of 92km of new, dedicated rapid bus transit routes is increasing the speed and efficiency of journeys and lowering emissions. The fuel-efficiency training programme designed for drivers and maintenance staff is saving fuel and cutting pollution.

Urban mobility

We are working with the government of Mizoram to prepare a comprehensive mobility plan for the rapidly urbanising city of Aizawl. As project design management consultant, we are identifying priority investments to tackle mobility issues caused by the hilly terrain and congestion due to the trade of goods with Bangladesh and Myanmar. We are carrying out due diligence for a pipeline of investment-ready projects, including procurement plans and bids.

We are also providing training for officials to build capacity in sustainable transport planning.

Knowledge sharing

Over 4,200 officials across India have been trained in sustainable transport practices, and this know-how is being applied in 21 cities. Planners now have access to 15 practical toolkits for implementing sustainable projects, such as how to set up a unified metropolitan transport authority.

Social and environmental safeguards

We help to resettle and compensate communities displaced by new transport infrastructure and ensure a reduction in environmental impacts, such as noise pollution.

Cleaner fuel

For more than 15 years we have been designing distribution networks for compressed natural gas to widen access to cleaner fuel for domestic, commercial, industrial and transport users.

We have worked on gas distribution projects covering more than 30% of India's districts, helping to reduce dependence on fossil fuels. We provide utility companies with an evaluation of current and future gas demand, infrastructure requirements and build cost-revenue models so that gas pipeline routes can be optimised. We also work with utility companies and lenders to implement these projects on ground.

Making natural gas a viable alternative to fossil fuels.



Protecting water resources

Investment in increased water treatment capacity, high-quality drainage systems and connected infrastructure is urgently needed to combat pollution of rivers, water supplies and soil contamination.

Technical excellence

Our teams are experts in feasibility studies, technology procurement and construction oversight on major water treatment and supply projects. We are focused on reducing effluent discharge to zero and carry out 10-year operational monitoring contracts for clients to ensure ongoing efficiency.



A cleaner Ganga with 70km² of new water infrastructure

Economic viability

We specialise in technical due diligence for lenders to ensure that the most cost-effective approach is taken to cope with current water needs and future urbanisation. Ensuring economic viability is essential on complex projects, such as India's largest water infrastructure project serving 11.8M people in Mumbai and its suburbs.

Waste to power

Under the National Mission for Clean Ganga initiative, one treatment facility serving 1.7M people in the Greater Kolkata region is powered entirely by biogas generated during water sanitation. By developing waste-to-power processes, we can help clients to recover costs, reduce emissions and meet climate goals.

Expanding solar capacity

Our experts work closely with India's leading power producers to increase solar capacity and lower electricity costs for households and industry. We specialise in due diligence – assessing the technical and economic viability of projects for lenders as well as the social and environmental benefits.

We have supported the installation of ground mounted solar power systems with a capacity of 8.8GW. These installations operate for 25 to 30 years, creating long-term employment for local people, improving infrastructure in remote areas and reducing greenhouse gas emissions and energy costs.

Solar installations create jobs and lower emissions.

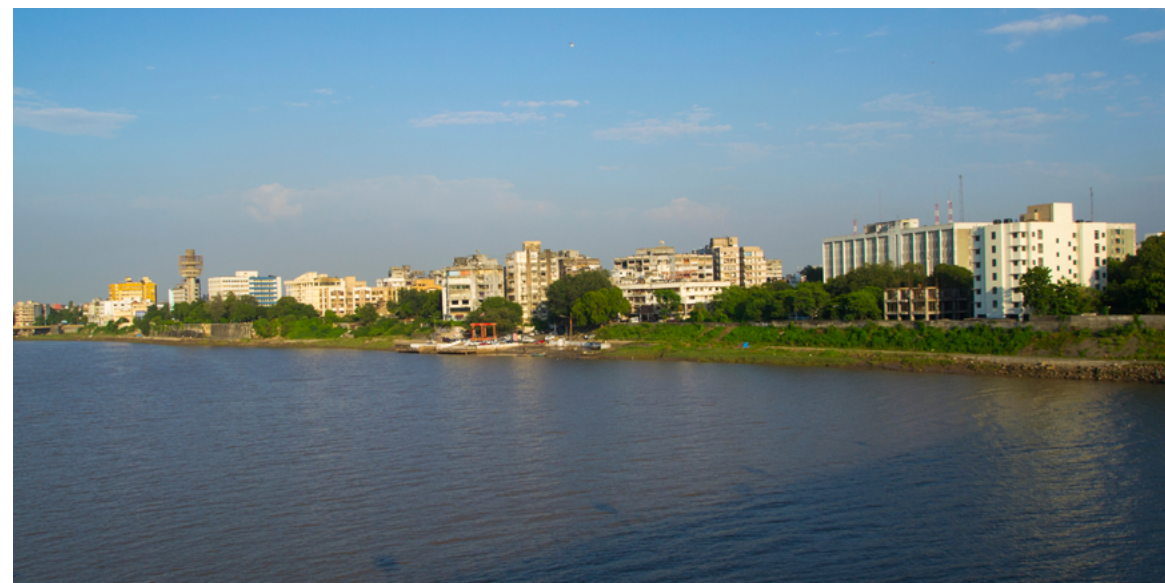


Urban renewal

Funded by the UK government, the Climate Resilient Cities for Shared Prosperity (CRoSP) programme is working to bring about transformational change in the way urban programmes are delivered in India. It focuses on driving inclusive economic growth, improved climate resilience and shared prosperity.

We partner with cities and institutions on policy and institutional reform and support the adoption of international best practices, technologies and finance. This will help India's cities to attract future investment by encouraging greater economic activity and a pipeline of investable projects.

Putting climate resilience at the heart of urban programmes.



We are sharing technical expertise on at least five complex, high-value projects, each around £100M, in the fields of transportation, urban services, urban planning and the built environment. These projects are helping cities to modernise while enhancing the health and wellbeing of citizens.

For example, each project aims to harness the potential of renewable energy; create climate and disaster resilient water and wastewater infrastructure; and use digital technology to create efficient transport systems that are user-friendly for all.



Demonstrating that affordable housing can be economically viable.

Affordable housing

We have helped to kickstart a project that aims to build more than 25,000 affordable flats covering 1.85M square metres in Uttar Pradesh over the next seven years.

As a cost consultant, we demonstrated to a private builder how the economic viability of the project could be improved. By recommending the use of locally available materials and suppliers,

we showed how to expedite project delivery, reduce costs and increase sustainability. This helped to restart development after many years without a contractor in place.

We also advised on the use of a phased construction approach with 1,500 units built successfully in phase one, demonstrating progress and value, before moving on to phase two.

Greener industries

India needs its industrial and manufacturing facilities to compete on resource and energy efficiency with the best in the world. With green building design and value engineering, we help clients make choices over which materials and construction methods to use to optimise costs and benefits.

Value engineering is used to promote cost efficiency through the selection of materials and methods of construction without sacrificing functionality.

Increasingly, we help clients to work towards green building certification and decarbonisation under national or international schemes. Our clients include JCB, Asahi and Nestlé.

We are also working with major metals and cement manufacturers to monitor and reduce their specific energy consumption – making them efficient and more competitive.



Thermal efficiency

When Asahi Glass India decided to build a state-of-the-art manufacturing plant in Mehsana, Gujarat, it was a perfect opportunity to showcase its own product with a 300m long glass façade.

Using a layer of double glass in the main structure reduced the construction time by 25% and has improved thermal efficiency in hot and cold temperatures. The temperature inside the

building is 12 degrees lower than the outside, making it a better place to work.

Heat reflecting glass also offers huge potential to reduce energy consumed in the cooling and lighting of industrial buildings. While the upfront cost of glass is higher, we worked out a commercially viable model for return on investment. We helped Asahi to achieve certification from the Indian Green Building Council (IGBC).

Asahi Glass showcases the thermal efficiency of its product.



Zero wastewater

Our ingenious engineering solutions helped JCB India to design a heavy machinery manufacturing facility in Halol, Gujarat, with low-cost access to water and zero wastewater discharge. The design includes two water collection facilities allow for rainwater harvesting and better water management to protect life on land and water in and around the industrial estate.

Our detailed engineering and procurement advice services helped the project gain gold accreditation from the IGBC.



Operational efficiency drives down power consumption.

Multi-purpose, multi-product plants

We maximise asset utilisation of chemical plants by making them multi-product plants that have the capability to manufacture different types of pesticides. Sophisticated modelling software is used to look at every aspect of a plant's operation and

recommend the optimum set-up to maximise returns on capital investment. Many multi-purpose and multi-product plants can make energy savings of 10% to 20%, in some cases up to 50%, by optimising plant operations.

Solar energy

The Government of India has a target to install 175GW of renewable energy by 2022 with solar making up 100GW of the total. Acceptance of solar power is growing among industrial clients as solar modules, which are now being manufactured in India, become cheaper. Installing rooftop solar panels offers the potential to cut a portion of a plant's overall energy costs, such as lighting, without changing its main power source.

JCB Industries is an early adopter of rooftop solar panels at its plant in Halol, Gujarat. Installation of solar panels will begin in Q1 2022. The company estimates that 66,000 tonnes of CO₂ emissions will be saved over the 20-year life of the plant. This means 32,100 tonnes of coal will be saved and replaced by low-cost clean energy.



Creating better job opportunities for women.

Better working conditions

We help our clients to create facilities that support the health and wellbeing of employees and foster inclusion. Plans for the JCB plant at Halol, Gujarat included spot ventilation to prevent the spread of welding fumes to other

nearby areas; double-glass partitions to reduce vibration and noise pollution and the employment of 50% female technicians on the shop floor to improve gender equality.

Phasing out pollutants

Mercury removal

Our deep industry knowledge and connections helped us to create an inventory of all mercury used across sectors in India on behalf of the UN Development Programme (UNDP) and India's Ministry of Environment, Forestry and Climate Change. We engaged with companies to quantify the total consumption of mercury in 24 products and services and to develop timelines for phasing this out by switching to alternatives. We recommended the creation of a properly regulated mercury market to trace imports and exports.

HCFC transition

Following the success of the mercury management project, UNDP awarded us a contract to carry out a pan-India audit of industrial use of hydrochlorofluorocarbons (HCFCs), which deplete the ozone layer. We conducted due diligence to verify the steps taken by companies to phase out HCFCs and the costs they incurred in doing this, which UNDP has agreed to reimburse.

Industrial transformation

The Visakhapatnam-Chennai Industrial Corridor is a landmark programme that will increase growth and prosperity in Andhra Pradesh. It will create world-class infrastructure and a business-friendly environment that will strengthen the manufacturing and service sectors.

VCIC is envisaged to become a major global manufacturing and industrial hub, which is forecast to create 11.8M new jobs in the state of Andhra Pradesh by 2035. It is a key part of the East Coast Economic Corridor, an initiative to create world-class infrastructure to support business development. It is part of the Government of India's 'Act East Policy', which

aims to integrate the economy with global production networks in Southeast and East Asia.

As lead project management and construction supervision consultant, we are responsible for delivering state-of-the-art transport, energy and industrial infrastructure. Our role goes well beyond infrastructure delivery. We also advised on policy reforms to

improve the ease of doing business; ran community engagement sessions; provided skills training for officials; and developed an action plan for gender equality and social inclusion.

We designed a project progress dashboard with key metrics on the status of construction, procurement, safety, project loans and financials. Another new application was

designed to provide real-time monitoring and reporting based on inputs directly from the site. It then generates daily, weekly and monthly progress reports for our clients. We also developed a new land management system to keep up to date with land acquisition issues at the 800km industrial corridor. The system holds the latest information about the amount of land to be acquired, pending decisions and a record of payments.

We closely monitor and report progress on social and environmental safeguards — resettling communities displaced by the programme, building climate resilience and increasing solar power capacity. This sharp focus on sustainability and inclusive development holds the key to transforming lives and livelihoods in India.



Making Andhra Pradesh a world-class manufacturing hub.

Better health and livelihoods

Our multi-disciplinary teams put the health and wellbeing of people, including the poorest communities, at the heart of all our work. Our goal is to improve access to medical diagnosis and treatment so that people can protect their health and livelihoods.

As experts in the design and planning of health systems and public health, we are working to accelerate the construction

of new hospitals and treatment centres at state level while controlling costs and minimising waste and delays.

We also bring deep global expertise in improving health resilience. Our teams of experts aim to build better systems for identifying and treating infectious diseases, fighting antimicrobial resistance (AMR) and greater readiness for future epidemics and pandemics.

3 GOOD HEALTH
AND WELL-BEING



10 REDUCED
INEQUALITIES



Antimicrobial resistance

Mott MacDonald is the global management agent for the UK government's Fleming Fund programme, which plays a critical role in combatting drug resistance. AMR is a major global threat to health and is projected to result in 10M deaths per year by 2050. The programme

helps to collect, analyse, share and use high-quality data on AMR around the globe. It works with national governments to improve laboratory capacity and AMR surveillance. Our India office manages grants for India, Nepal, Bhutan, Sri Lanka, Bangladesh and Indonesia.

Data and surveillance: the key to fighting antimicrobial resistance.



People and processes: shaping health system.

Health outcomes

We have expertise in managing national treatment programmes for responding to disease outbreaks. Under the KalaCORE programme, we helped build national capacities for treating visceral leishmaniasis as well as researching the disease, identifying early symptoms, informing communities and giving doctors updated information. We also helped build national capacities on early epidemic response which were useful during the COVID-19 pandemic.

Affordable, accessible cancer treatment

We partnered with Tata Trusts and the Government of Assam to deliver 11 cancer care hospitals in Assam, providing people with easy access to long-term treatment without disruptive and costly journeys to other states.

With 52,000 new cases of cancer each year in Assam, better cancer care facilities were urgently needed but with tight cost control.

Our design coordination, procurement management and construction oversight helped the client to deliver the project in around two years, saving 10 to 12 months from the conventional plan of 36 to 40 months, despite the COVID-19 pandemic.

Bringing quality cancer treatment closer to home.



Accelerating hospital construction to save lives.

COVID-19 rapid response

Working with Tata Trusts and four state governments, we helped to upgrade seven hospitals to COVID-19 treatment centres in less than 90 days during the first wave of the pandemic in 2020. Our people worked tirelessly to accelerate construction and save lives. Our digital capabilities were critical in ensuring clear communication between contractors and the client and we provided daily interactive tracker reports on progress.

By project close the centres had 650 fully operational beds and were able to treat more than 1,000 patients every month during the pandemic.

Although built as emergency facilities, these treatment centres will help support better healthcare services for the long term.

Inclusive education

We are dedicated to ensuring all children have the opportunity to receive a high-quality education. We do this by being an adviser, a catalyst for change and a critical friend to our partners and clients.

Our many years of experience in the design and delivery of large and technically complex education projects sets us apart. Our practical know-how across a wide range of programmes, both in India and internationally, allows us to learn, adapt and share knowledge.

4
QUALITY
EDUCATION



5
GENDER
EQUALITY



8
DECENT WORK AND
ECONOMIC GROWTH



Opportunities for all

We are proud to have supported the Nai Manzil programme run by India's Ministry of Minority Affairs to encourage young people from minority groups back into education and training. This project fits perfectly with our commitment to social development and inclusion.

In 2021, we carried out a World Bank funded impact evaluation of the programme

to quantify the benefits. The project provided nine months of education and skills training to 100,000 students, one-third of which had to be women, across 28 states. Our interviews with 1,200 beneficiaries and their families found that more than half of the students who took part have become capable of earning 50% higher earnings.

Developing skills for a modern dynamic economy.



Educating the next generation.

Driving up standards

The Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is a flagship scheme of Government of India to enhance access to secondary education and improve its quality, impacting millions of children. We helped to accelerate the programme in the most needy states and for the most disadvantaged children.

This followed our work supporting the Indian government to identify strengths and weaknesses in the primary school system under the Sarv Shiksha Abhiyaan (SSA) programme. We trained staff from the National Council of Educational Research and Training and state institutions to use international assessment techniques and advanced evaluation methodologies. This is the first time these methods were used in India.

Opening opportunities with connected thinking.

Talk to us
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