

# MISSION CLIMATE

UK-India partnership critical for a sustainable and prosperous future, **Alex Ellis**, British High Commissioner to India



Both countries share a capacity for innovation and have a strong partnership spanning smart power, renewables, energy efficiency and electric mobility

India will be central to the world's development in the next twenty-five years. The world's development, in turn, will be in large part determined by collective action to reduce the damage of climate change. So, India will be an essential element of the world's sustainable future.

That future, the world of our children and grandchildren, is being determined now. The economic consequences of Russia's invasion of Ukraine, the harm to our planet outlined in the recent UN report on the effects of climate change, remind us of the scale of the challenge. They also remind us that most of these challenges are self-inflicted; caused by human activity. In that reality lies the solution—that with strong resolve, timely intervention and collective action, we can create a safer, fairer, more sustainable future.

India has already made huge strides on climate action—quadrupling wind and solar capacity in the last decade as well as launching the National Hydrogen Mission. With most of the infrastructure that India will need for energy and other needs by 2040 yet to be built, it can lead the world in pioneering a clean development path.

An accelerated and more ambitious shift to clean energy, including solar and wind deployment, provides the most effective route to ensuring climate and energy security, and improvements to



our everyday lives. This shift will act to reduce emissions, wind down our dependence on fossil fuels and protect consumers and businesses from price volatility. Furthermore, it will provide new local job opportunities, energy access and cut the costs of living.

Global support for a clean energy transition is greater than ever before. Two years ago, net-zero emissions targets applied to only 30% of the global economy. Today, over 90% of the global economy is covered by net-zero targets, including India. The UN COP26 climate change conference in Glasgow last year was a testament to collective action by nearly 200 countries, enshrined in the Glasgow Pact, in good part because of Prime Minister Modi's ambition. Countries agreed to revisit their emissions targets in 2022, to rapidly scale up climate finance and to double finance for adaptation to climate change by 2025. For the first time, the COP decision included a commitment to scale down unabated coal power. Countries agreed to work together on the loss and damage to them. And we finalised all the outstanding elements of the rules

by which countries will be held to account as they deliver on their targets.

In 2015, the world was on course for a devastating increase of four degrees in warming by the end of this century. COP26 managed to turn that dial down to around a two-degree increase. It is still far too high but the world is

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heading in the right direction. The goal of restricting the growth in temperature to 1.5 degrees is alive but there is still a lot to be done. That's why the UK is focused on delivering the actions agreed at COP26, around four key goals.

First, ensuring that promises on emissions reductions are kept, to keep global warming at manageable levels.

Second, supporting climate-vulnerable countries by ensuring commitments on adaptation and damage are honoured. Third, to mobilise finance to support these efforts; the global goal of \$100 billion in climate finance for developing countries remains a critical priority. Our final goal is to push for further action across critical sectors, such as coal, cars and ending deforestation, working with countries and partners. In all of this, we will work hand-in-hand with Egypt, the COP27 Presidency.

India is a hugely important partner on the climate agenda. Prime Minister Modi showed decisive leadership at the COP26 World Leader's Summit with new 2030 commitments to supply half of India's energy needs with renewables and announcing a 2070 net-zero target. These commitments set a clear direction for business and innovators, states and cities around a goal of clean growth.

When India and the UK, two countries of different size at different stages of development, come together this benefits each other and the world. Both countries share a capacity for innovation and have a strong

partnership spanning smart power, renewables, energy efficiency and electric mobility. To support its delivery, the UK is working with India through an "India Green Guarantee" to the World Bank to unlock an additional \$1 billion for green projects across India. This will help turn promises into practice. The UK and India are also part of global initiatives like the COP26 Energy Transition Council and Zero Emission Vehicles Transition Council - to make clean technologies the best and most affordable option and attract a doubling in the rate of investment in clean power and in the pace of the global transition to zero emission vehicles by 2030. Our joint research and innovation partnerships in areas like electric mobility and offshore wind will generate new solutions to power green growth.

The UK is also a proud member of the India-led International Solar Alliance (ISA), which aims to mobilise more than \$1 trillion of investments in solar energy by 2030. To ensure that nobody is left behind in the transition, the UK is also a founding member of the India-led global Coalition for Disaster Resilient Infrastructure (CDRI), which at COP26 launched the 'Infrastructure for Resilient Island States (IRIS)' initiative to enable a more sustainable and resilient approach to infrastructure in some of the most climate-vulnerable parts of the world.

The scientific and economic case for energy transition is clear. The world is on average 1.1 degrees celsius warmer than in pre-industrial times. We are already witnessing the acute effects of this on millions of people in India and across the world through extreme weather events.

If emissions are not cut, India faces the possibility of catastrophic heat, the highest flooding costs in the world, and widespread food and water scarcity. Our actions today will shape the future our children will inherit and our capacity to adapt to increasing climate risks.

COP26 in Glasgow achieved substantial progress but we must follow up with collective action. It is time for India and the UK to boost collaboration on climate action and deliver upon those ambitious targets to pave the way for a healthier, sustainable and prosperous future.

## Great Futures require bright ideas

In 2020 renewable energy generated over 40% of UK power, outpacing generation from fossil fuels for the first time ever. Just one example of the UK's commitment to global climate action. Join us and see things differently.







## 'THE MISSION IS TO PRODUCE UNIQUE CLIMATE-FRIENDLY PRODUCTS'

Regenerative and sustainable farming practices are crucial to tackle climate change and its impact, shares **Som Narayan**, Co-Founder, Carbon Masters

Agriculture is a significant contributor to CO2 emissions due to the release of nitrous oxide from the application of fertilisers and manure; methane emissions from rice production and cows belching, and carbon dioxide from the use of agricultural machinery. Current agricultural practices play a significant role in causing climate change and to mitigate that, it is vital to move to more regenerative and sustainable farming practices to tackle the issues of soil nutrient deficiency, food security and loss of soil carbon. Carbon Masters is a climate tech company, spun out of the University of Edinburgh,

Scotland, and has offices in the UK, and India. Founded in 2009, Carbon Masters' mission is to address the climate crisis by providing low carbon, climate-friendly solutions that can reduce the use of fossil fuels and chemical fertiliser consumption. The pioneering technology enables the conversion of food waste via bio-methanation to produce two unique climate-friendly products which are branded as Carbonlites. Carbonlites Bio-CNG is renewable natural gas that burns longer and stronger than LPG. It is India's first bottled carbon neutral gas that can replace both, LPG and diesel in cooking, production processes

and transport with a significant 10-15% cost savings for the users. The other innovative product is Carbonlites bio-enriched organic manure, an organic fertiliser that helps farmers to reduce use of chemical fertilisers, improve soil health by putting carbon back into the soil, further reducing CO2 emissions. Recently, we have partnered with the Siddipet Municipal Authority to design and build Telangana's first Bio-CNG and organic fertiliser facility that will process 25 tonnes of the cities' organic waste. The project will assist the city to achieve zero waste being sent to landfill, saving both costs and carbon emissions.



The company-led disruptive technological innovation is working to decarbonise the construction sector, shares **Dalraj Nijjar**, Chief Commercial Officer, Concrete4Change

## WORKING TO MINIMISE CO2 TAX LIABILITY

As the world strives to reach net-zero carbon emission goals, the construction industry has a huge role to play in making concrete more sustainable as it accounts for 8% of the globe's carbon dioxide (CO2) emissions. Established in 2021, Concrete4Change is an award-winning R&D company on a mission to decarbonise the construction industry through disruptive technological innovation. The company has developed technology capable of sequestering significant amounts of CO2 in concrete (up to 30%), which has the potential to revolutionise the industry on a global scale. The technology incorporates a solid-state carrier which transfers CO2 into concrete through a mineralisation process and strengthens the concrete. The technology ensures that in the event of demolition, there is no leakage of CO2. This technology has the potential to mitigate 2 billion tonnes of CO2 emissions, which is equivalent of 4% of global CO2 emissions, and can also reduce production costs dramatically (70% cheaper), minimise CO2 tax liability and reduce the carbon footprint of the construction industry. As of 2021, the company has received a number of awards and accolades, including having won the United Nations 'Most Innovative Net-Zero Award' at COP26, being named top 3 most innovative companies by the British Precast Federation, and top 10 companies selected by the Brazilian Ideiagov for tackling Latin America's net-zero challenge.



## INNOVATIVE TECHNOLOGY CAN ENSURE EXTENDED LIFE FOR NATURAL RESOURCES

A pioneer in construction and demolition waste recycling space, we are enabling circular economy concept, shares **Manish Bhartia**, CEO, CDE Asia

Founded in 2006, CDE Asia is pioneer in the C&D waste recycling space in India, and one of the leading manufacturers of wet-processing equipment serving 24 countries in the Indian subcontinent and South-East Asia. The team of expert innovators are striving to optimise energy usage and reduce environmental impact to make a difference.

With revolutionary technology, the company has addressed the natural sand shortage with the flagship solution that washes crushed rock fines to manufacture high quality sand—a reliable and superior alternative for riverine sand. This path-breaking innovation has not only reduced the dependence on illegal river sand mining, but has also lowered

cement consumption, extended the life of certain natural resources and reduced carbon footprint. CDE Asia is also a pioneer in the construction and demolition waste recycling space in India. The innovative technology deploys eco-friendly processing techniques to produce usable resources from construction and demolition waste. It helps recover

95-100% of materials in the form of sand, aggregates value-added products, which were traditionally considered a waste product. Striving to create a smarter future, the company brings the 'Circular Economy' concept to the Indian infrastructure industry by developing equipment that is designed for maximum performance. Upcoming initiatives also include, recovering sand from dredging waste, remediation of contaminated land, and the conversion of bottom ash waste into construction material. With constant technological innovation and advancement, to date, the company has successfully reduced 88,125 kg CO2 emissions, saved 33,250 m2 of land due to smaller plant footprints, and 800 tonnes of steel due to leaner plant design.



The range of machines that we produce is now able to work on biofuel, which helps in increasing green credentials and reduces carbon footprint, shares **Derek Carr**, Managing Director, Addfield

## "ENVIRONMENT SUSTAINABILITY IS AT THE CORE OF OUR MISSION"

While the need for clean energy becomes increasingly significant each year, Addfield, the world's leading manufacturer of waste incineration solutions, has innovatively established themselves by having the most sustainable approach to waste disposal. Although incineration is often perceived as unclean, it is in many ways the most environmentally sustainable approach to dispose off non-recyclable, hazardous waste. When combined with suitable filtration and increasing waste to energy systems, not only do these facilities release cleaned gases into the environment, preventing the release of harmful chemicals into the atmosphere; incineration can also generate free clean energy, hot water, steam and electricity as direct by-products of operations. In essence, this provides a carbon neutral source of clean energy—a genuine alternative for countries which primarily rely upon coal and oil for energy production. Striving to be environmentally responsible, the company has introduced a range of machines that can be powered by sustainable HVO Biofuel, which is gaining popularity across India, for its green credentials and carbon neutral footprint. The company also provides a of solar-powered solutions, creating a safer future for green waste disposal. Environmental sustainability has been a foundation behind every machine produced by the company, since 1982. Committed to efficiency, the company manufactures incinerators that require 40% less fuel than alternative manufacturers. The company has continuously invested heavily in manufacturing improvements, green alternatives, optimising operations, and developing comprehensive systems to enable remote installation, operation and servicing.



With its vision to scale up climate innovation ventures and nature-based solutions, we are helping organisations track and reduce their greenhouse gas emissions, shares **Hitendra Dave**, general Manager & CEO, HSBC India

## ACCELERATING INVESTMENT IN NATURAL RESOURCES TO ADDRESS CLIMATE CHANGE

In February 2022, HSBC globally announced targets for reducing financed emissions in two carbon-intensive sectors—oil and gas, and power and utilities—by 2030. Our ambition to become a net-zero bank by 2050 means aligning financed emissions—the greenhouse gas emissions of its clients—to net zero. The company has globally announced targets for:

- A 34% reduction in the absolute on-balance sheet financed emissions for the oil and gas sector by 2030.
- A 75% reduction in the on-balance sheet financed emissions intensity for the power and utilities sector by 2030.

The company is supporting its customers on their transition pathways, and working together with them to prevent climate change. Further, the company is working closely with a range of partners to accelerate investment in natural resources, technology and sustainable infrastructure to reduce emissions and address climate change. The company's Climate Solutions Partnership aims to scale up climate innovation ventures and nature-based solutions, as well as help the energy sector transition towards renewable sources in Asia. HSBC Asset Management has also developed a new venture capital capability that provides institutional and private banking customers with opportunities to invest in technology start-ups addressing global climate change challenges. The company's climate technology venture debt and venture capital platforms invest in companies that are developing innovative technological solutions that help companies and governments understand, track and reduce their greenhouse gas emissions. With all this and more, the company is doing its bit to ensure its contribution towards finding solutions to prevent climate change.



We are doing some game-changing innovations, and are working to bring those innovations to India, shares **Dr Amitava Roy**, Founder, CEO, Engas UK

## INNOVATIONS THAT ARE EMPOWERING

Engas UK brings two game-changing innovations to India to reduce its foreign dependence on oil: First, a 90% lower cost electrolyser technology to produce green hydrogen; and oxygen from water using solar PV-electricity for multiple applications e.g., refuelling of vehicles, H2 cooking, back-up power for EV charging and using hydrogen to make ammonia, steel and cement. The value of input electricity from solar PV is enhanced by 10-15 times as hydrogen and oxygen gas have much greater value on the market than the electricity price. Engas Global, a group company of Engas UK, has recently installed their containerised electrolyser, compressor and H2 refuelling station for powering hydrogen boats and ships at Portsmouth International Port, UK. Second, an ultra-low-cost biogas upgrading technology to produce bio-CNG fuel from organic waste. A vast amount of organic waste is dumped at landfill sites causing methane emission to the atmosphere. The technology can upgrade raw biogas into high purity (97%) bio-methane, which is then transported in gas-cylinders at 200-350 bar pressure for refuelling of vehicles, and for back-up power and/or for charging of electric vehicles without the electricity grid which makes ultra-rapid charging of EVs much more cost effective than reinforcing the grid.

**AIDING SUSTAINABILITY**  
The Department of Scientific and Industrial Research (DSIR) of the Government of India has already selected the Engas UK's Bio-CNG technology for a pilot project in Kolkata, on Bio-CNG vehicle refuelling and replacement of LPG cylinders. This project was successfully completed in 2019. The company is also in discussion with several Indian companies to set up operation in India, to commercialise their Bio-CNG and hydrogen technologies to improve sustainability in the years ahead.



## ENABLING SUSTAINABLE BATTERIES

British innovation is certainly going to make a significant impact on the Indian batteries industry, shares **James Quinn**, CEO, Faradion

Lithium-ion batteries power the company's phones, laptops and many more electronic devices. However, the world needs to look beyond lithium if COP26 targets are to be met. Lithium is a scarce resource that requires nearly two million litres of water to produce just one ton of lithium. That one ton is only enough to

power approximately 90 cars. To combat this challenge, Faradion, a leader in sodium-ion batteries, leads the charge in providing cheaper and cleaner energy. Founded in 2011, and based in Sheffield and Oxford in the UK, the company has a set of 31 extensive and highly-defensible patents, which enables it to provide lithium-

ion battery performance, at much cheaper lead-acid prices. Sodium-ion batteries use sodium, the sixth-most abundant element in the world. Therefore, it is not only more sustainable but also far safer. The batteries already boast performance as good as Lithium Iron Phosphate batteries, at 1160 Wh/kg, without using any lithium,

cobalt or copper. The recent acquisition of the company by Reliance Industries will help British innovation to make an impact on the Indian market. It will secure India's energy storage requirements for its large renewable energy market and fast-growing electric vehicle (EV) charging market.





We are a significant partner in renewables financing, and are driving energy efficiencies and sustainable use of renewables across its India offices, says **Jaideep Khanna, Head of Barclays, Asia Pacific and Country CEO, India**

## TOWARDS SUSTAINABLE FINANCIAL GOALS

As an organisation with a global footprint, Barclays has set targets for itself to off-set operational carbon emissions. It is also a responsible financial partner with a clearly expressed path towards meeting the challenges of climate change. The financial sector has a critical role to play in the world's effort to successfully address the risks from climate change. It is estimated that over the next 30 years, at least USD 3 trillion in additional investment will be needed each year to finance the transition to a low-carbon economy.

The company has one of the world's largest financial institutions, committed to aligning its financing activities to the goals of the Paris Agreement, with an aim to become a net-zero bank by 2050. The company's climate strategy is designed to turn our net-zero ambition into action by achieving net-zero operations, reducing financed emissions, and financing the transition. The strategy towards sustainability, includes helping clients in India, with green financing, advancing energy efficiencies in our India offices. At the forefront of green financing, Barclays is ranked first for renewables only issuances out of India for the last 3 years. The capital markets business has led 15+ transactions of over USD 8 billion for 7 clients across 2020-2021. The company, in collaboration with the head office in London, aims to reduce energy intensity across India offices. It has committed to off-set 100% operational carbon emissions for all the India offices the purchase and generation of renewable electricity, and optimisation of energy consumption.

Globally, the company continues to encourage initiatives that promote harmonisation in the reporting of ESG and sustainability, including the work of the International Sustainability Standards Board under the auspices of the IFRS Foundation.



## OFFERING SOLUTIONS FOR PROVIDING ACCESS TO GREEN CAPITAL

Financial markets will play a crucial role in funding the growth of green economy companies, shares **Jane Goodland, Group Head of Sustainability, London Stock Exchange Group**

At the centre of global financial markets, London Stock Exchange Group (LSEG) is a strategic enabler of sustainable economic growth, by accelerating the transition to net-zero, growing the green economy, and creating inclusive economic opportunity. From comprehensive sustainable investment data and analytics, to access to unparalleled sources of green capital, the company provides solutions designed around the needs of sustainable finance ecosystem. LSEG provides deep capital markets for green finance. Its Sustainable Bond Market has helped issuers as diverse as supranational institutions, local

governments, as well as corporates raise over £100 billion from a broad range of sustainable debt instruments, including green, sustainability-linked and climate transition bonds. On the equity side, 115 London-listed companies with a combined market capitalisation of £165 billion hold our Green Economy Mark, awarded to issuers with over 50% of their revenues derived from green economic activities.

Financial markets will play an important role in funding the growth of green economy companies. These are issuers that are developing the next generation of sustainable battery solutions and sustainable fuel sources such as clean

hydrogen. LSEG provides comprehensive ESG data via several mediums. Data on more than 10,000 companies can be accessed via Workspace, a Refinitiv product. Lipper provides an insight into ESG fund flows. Its global index provider FTSE Russell offers sustainable investment indices and data for investors, with over \$160 billion in assets passively tracked by these important benchmarks.

As a member of the UN's Race to Zero, LSEG is convening the market, working with customers, industry groups and regulators to improve market infrastructure for sustainable investment. It is involved in the Glasgow Financial Alliance for net-zero.



## PROVIDING FUTURISTIC METERING SOLUTIONS

We work towards building an efficient ecosystem for smart metering in India, while mitigating climate change, says **John Cronin, Chairman, CyanConnode**

Obtaining energy with the help of fossil fuels has an enormous carbon footprint. Electricity generated from various renewable sources provides the most effective and cleanest solution, which also saves more CO2. The energy networks are only going to become more complex and data will be key for managing the network, which means that it is also important for balancing the energy generation. The flexibility and other functions of smart networks cannot be fully optimised without smart meters.

Smart meters are an integral part of a flexible, de-centralised and de-carbonised energy system, which is central to India reducing its CO2 emissions and reliance on unsustainable energy sources. As

the central component of a digitalised smarter energy system, smart metering will facilitate better integration of renewable power and reduce our reliance on fossil fuels, through efficiently managing energy supply and demand by using near-real time energy data.

The company is currently a world leader in design and development of narrowband RF mesh networks for smart metering, and have kept climate action and sustainability at the core of its business where >50% of its revenues come from products and services that contribute to environmental objectives, such as climate change mitigation and adaptation, waste and pollution reduction, and circular economy. The company has developed an innovative and futuristic smart metering solution "Omnimesh" narrowband RF mesh technology. The sheer value addition Omnimesh brings to the smart metering market is simply astounding. It empowers the utilities on multiple fronts to achieve aspects that were previously considered unfeasible and impractical.

Without smart meters, reducing our carbon emissions and meeting India's climate change targets will be higher cost, less supportive of renewable generation and less well coordinated.



## INTEGRATING SUSTAINABILITY WITH BUSINESS STRATEGY

Strong business footprint with focus on digitisation and sustainable solutions is helping our organisation in reducing carbon footprint of our own operations, and also helping the country in transitioning to a net-zero emissions future, shares **Nitin Prasad, Chairman, Shell companies in India**

Shell is a global energy company that aims to meet the world's demand for energy in economically, environmentally and socially responsible ways. We use advanced technologies and take an innovative approach to help build a sustainable energy future.

It is one of the most diversified international energy companies in India, with presence across upstream, integrated gas, downstream, renewable energy, and deep capabilities in R&D, digitalisation and business

operations. In 2021, Shell launched Powering Progress strategy that aims to accelerate the transition of its business to net-zero emissions by 2050, in step with society. It sets short and medium-term carbon intensity targets, which is to reduce absolute emissions by 50% by 2030, compared to 2016 levels. It demonstrates determination to play a leading role in tackling climate change, and puts sustainability at the heart of its strategy. The company's approach is to first avoid emissions wherever possible, then reduce

emissions, including by changing the energy mix, and then only to compensate for the remaining emissions using carbon credits. Globally, Shell is helping airlines, shipping and trucking companies, and the industrial, mining and agricultural sectors decarbonise their businesses in commercially viable ways, not just by providing energy products, but also by providing decarbonisation pathways and support.

In India, Shell has been working with a broad coalition of businesses, governments and industry

partners from hard to abate sectors to identify and enable decarbonisation pathways and foster conducive business and regulatory environment that would help India achieve its energy transition goals. To deliver this, it has a strong business footprint with a focus on digitisation and future-ready sustainable solutions. Shell is invested in energy from low-carbon sources such as wind and solar; and new fuels for transport, such as advanced biofuels and nature-based solutions.



## MUST ENSURE NET-ZERO GREENHOUSE GAS EMISSIONS

Adoption of electric vehicles for routine mobility can go a long way in ensuring sustainability and affordability, shares **Kumar Sumit Ranjan, Co-Founder, GoZero Mobility Private Limited**

India ranks 3rd in clean energy country attractive index in 2021. Achieving Net-Zero is not just about reducing greenhouse gas emissions. India's energy transition needs to benefit its citizens, and well-designed policies can limit the potential trade-offs between

affordability, security and sustainability. Electric vehicles provide opportunities to link the renewable power and low-carbon transport sectors. Government is increasingly focusing on the Electric Vehicle sector, including eBicycles so that they can achieve net-zero

targets and reduce pollution. GoZero is one of the largest eBike makers in India, with more than 180+ distribution channel. Through its range of eBikes, the company has been actively trying to change the way people commute. It is contributing in minimising traffic congestion and

helping the push towards zero emission. Through its initiatives, the company is actively working on increasing awareness regarding eBikes and electric vehicles as a whole, and is thus, helping the push towards sustainable living. Their recent campaign 'Switch' was aimed at providing heavy discounts to users switching from conventional bicycles to eBikes. The company has been working with B2B partners like Electric One, Greaves, Saradhy Traders and Aryendra Mobility, to create a strong retail and distribution network pan India.



Smart Creative Ltd solutions are working to ensure that the waste from electronics production gets minimised for a sustainable future, says **Jonathan James Quinn, Group CEO, Quinnovations**

## MINIMISING ELECTRONIC WASTE IS CRITICAL

Global consumption of electronics is rapidly increasing. The EU alone produces 11.6 million tonnes of discarded WEEE annually. Many developing countries lack the facilities, technology and resources needed to recycle or dispose of e-waste. The use of primitive techniques, such as incineration and smelting, is plausible to some, it still poses threats to people's well-being and the environment.

Quinnovations has changed the game of recovering high-value materials from WEEE waste that were previously lost in inefficient and out-of-date processing methods, such as a much higher-yield of any metal content; the ability to recover lead, copper, tin and silver, all of which remain unrecovered when the smelting process is used; much lower capital and operating cost than smelting; and 80% lower energy consumption compared to smelting. It helps as a pre-smelt process to reduce the workable volume; 99.9% of inputs and outputs are recycled and reduces the need to export waste creating an urban mine.

The company ensures that its process uses far less energy; uses waste chemicals to remove the need for raw materials and closes the loop on this process. Its urban mining process reduces carbon footprint from transport and exporting wastes; while its co-operative e-waste farming program not only reduces prices for the collector/public, but also removes illegal waste tipping in local communities. The company's sister company [www.blockwalls.org](http://www.blockwalls.org) takes its fibre waste and makes recycled giant geopolymer blocks.



## CLEAN ENERGY IS THE NEED OF THE HOUR

It is imperative to drive the transition to a cleaner future where natural resources are used responsibly, shares **Senthil Ramanathan, Country Director, Rotork Controls India**

Rotork's businesses are well-positioned to enable the low-carbon global economy with products and services used to electrify flow control processes, in hydrogen, carbon capture and storage and battery production. The company has a major part to play in the energy transition too, for example in reducing methane emissions, gasification and biofuel production. Its 'eco-transition portfolio', includes three portfolios: 'Water & wastewater', 'Methane emissions

reduction' and 'New energies and technologies portfolio', as well as other applications such as process water management and gasification. It is estimated that the three portfolios represented around 30% of sales in 2021, with other applications also materialising, but difficult to estimate.

**SUSTAINABILITY**  
The company's purpose and sustainability vision are one and the same—keeping the world flowing for

future generations. It wants to help drive the transition to a cleaner future where environmental resources are used responsibly. Rotork has a major role to play in new energies and technologies that will support the transition to a low carbon economy, as well as helping preserve natural resources.

The Group has a long-established tradition of innovation and of tackling challenging engineering problems. As part of GAP (Growth Acceleration Program), the company has streamlined its new product commercialisation process and has a strong pipeline. It wants to harness its engineering tradition and convert the pipeline to launches, leading with new products that offer improved efficiency, and which are aligned to the "electrification of everything" trend.

At the group level, it is committed to delivering net-zero emissions across all three scopes by 2045.





# The UK is committed to support India's transition to clean energy

A global challenge requires global solutions, stresses **Alan Gemmell**, Her Majesty's Trade Commissioner for South Asia

Climate change is widespread, rapid and intensifying. We must take immediate and far-reaching action to avoid the devastating impacts of rising temperatures and not protect just ourselves but our future generations from the effects of climate change. We need countries, cities, states and businesses—to move onto a credible path to reach net-zero globally in the coming decades. Collaboration between the UK and India will be crucial to tackling climate change.

This is already happening and is evident from the various engagement and ministerial dialogues both the countries have had in the recent months. The COP26 President, Alok Sharma, has visited India multiple times in the past year to discuss a wide spectrum of topics related to tackling climate change, along with progressing sustainable development and net-zero commitments. He said that, "the absolute focus for the UK Presidency year is delivery." I echo this sentiment.

The Intergovernmental Panel on Climate Change (IPCC) Working Group II report released in February has shown the monumental climate risk, we face globally and how climate change has caused widespread adverse impacts and related losses and damages to nature and people. The science is clear on this and urgent action is required to deal with increasing risks. The UK's Ten Point Plan and the net-zero strategy sets out how the UK will deliver on its commitment to reach net-zero emissions by 2050 and focuses on areas to accelerate our path to net-zero—offshore wind, hydrogen, investing in carbon capture and finance, to name a few.

COP26, the global climate conference

held in Glasgow last November, was a significant achievement. Nearly 200 countries came together to forge the Glasgow Climate Pact to keep 1.5C alive. The commitments Prime Minister Modi made at COP26 also sent an inspiring signal. India committed to net-zero carbon-emission target by 2070, and targets to meet 50 percent of its energy requirements from renewable energy by 2030. India can lead the world in pioneering a clean development path. Our two Prime Ministers also launched the 'Green Grids Initiative—One Sun One World One Grid' and 'Infrastructure for Resilient Island States' initiatives. India also signed up to the Glasgow Breakthroughs and the Zero Electric Vehicles Declaration under emerging economies category. To ensure the Glasgow Climate Pact is brought to life, the UK is committed to working with India to reach its goals and is already facilitating British electric vehicle companies to set up manufacturing hubs in India.

Ahead of COP26, the UK pledged \$1 billion investment from British Investment International into Indian green projects over the next five years and announced a UK guarantee for \$1 billion World Bank lending to India. International Trade Secretary Anne-Marie Trevelyan launched the Clean Growth programme to encourage more UK exporters to tap into a sector expected to be worth £1.8 trillion by 2030. The intent is to encourage clean growth businesses to start exporting their innovation globally. We also launched "Climate Finance Leadership Initiative India", a private sector group led by Bloomberg and Tata, to move quickly to identify catalytic investments into

Indian green projects. India and the UK already have a strong history of partnership on climate, ranging from knowledge exchange and innovation in areas like electric mobility and power sector reform to climate resilience. In May 2021, our Prime Ministers agreed to enhance adoption of electric mobility. They also adopted an ambitious India-UK Roadmap to 2030, to steer cooperation for the next ten years. They emphasized that enhanced India-UK bilateral cooperation can not only reap mutual benefits but also be a global force for good to revive lives and livelihoods, promote peace and prosperity around the world and protect and preserve the planet for future generations. Given that climate is also one of the pillars of the India-UK 2030 Roadmap agreement, continuous collaboration between the UK and India will be vital.

Looking ahead, offshore wind is another foreseeable area to boost collaboration. The UK has installed more offshore wind capacity than any other country in the world. In 2020, our offshore wind generated 13% of total electricity in the UK, enough to supply the needs of 30% (10.8 Million) of UK homes. With India's ambitions to install 30 GW of offshore wind by 2030, India and the UK will definitely be natural partners.

The UK is also investing in India's clean energy transition and mobilising public and private sector investment into green finance. The UK has invested over £67 million to date in projects on solar energy, water, climate and more. Plus, the Green Growth Equity Fund (GGEF), a joint investment of £120 million from both India

and the UK, is now the largest single-country emerging market climate fund in the world. Together, this has enabled an additional installed capacity of 413 MW of renewable energy, mitigated 1.14 million tonnes of greenhouse gas emissions, and creating over 53,000 jobs.

And there is opportunity for the UK and India to work together to promote the clean growth agenda at the World Trade Organisation (WTO) where members, developed and developing economies alike, can discuss the mutually beneficial environmental and economic outcomes of sustainable trade, not least in the lead up to the Twelfth Ministerial Conference.

In January, International Trade Secretary Anne-Marie Trevelyan and Indian Minister for Commerce and Industry Piyush Goyal launched negotiations on an ambitious Free Trade Agreement (FTA). An India-UK Free Trade Agreement would be a substantial opportunity for both of our economies and a significant moment in the India-UK bilateral relationship. While a deal between the UK and India will enable both economies to diversify and strengthen supply chains, one of the key areas that cannot be ignored is the unprecedented opportunity for green industries. An FTA would unlock opportunities for growth in our industries in areas such as offshore wind generation, electric vehicle manufacturing and carbon capture and storage.

Here in Maharashtra, the Government is at the forefront of mainstreaming climate change across policy and planning. Mumbai is aiming to be the first city in India to achieve net-zero by 2050—this also makes it the first city in South Asia to set such a

timeline. Mumbai has also launched a Climate Action Plan to support the city combat the effects of climate change in the coming decades. The state of Maharashtra recently awarded an EV bus contract to a British company, which will include investments in the infrastructure of the state. British and Indian businesses are already working together to support both our nation's transition to a net-zero economy. Harnessing the power of renewable energy will be key to this endeavour with offshore wind a major focus for the UK and Indian governments and with India planning to install 175 GW of renewable energy capacity by the end of 2022 and 500 GW by 2030.

The UK already has the largest installed offshore wind capacity in the world, producing over 10 GW of energy. A figure we want to quadruple over the next decade. Our businesses can bring their capabilities and expertise to bear to support India's growing demands for green energy.

Although India is one of the most vulnerable countries to climate change, this is an opportunity as much as a challenge. India has already taken impressive climate action. The spirit of partnership between India and the UK is just one example of cooperation in the global climate story. Together, we can improve our common future and mobilise businesses, buyers, exporters and investors to seize opportunities.

Please contact the UK's Department for International Trade (DIT) India team, to see how we can help your business supply solutions to a net-zero world needs: SouthAsia.Trade@fcdo.gov.uk.



## COMMITTED TO INVEST IN CLIMATE RESILIENT INFRASTRUCTURE

As an organisation, CDC, has been working towards creating a roadmap to create sustainable infrastructure, shares **Sridhar Narayanan**, Managing Director and Head of Asia, CDC

CDC, which will be renamed British International Investment in April, sees climate change as the most pressing developmental need, as the magnitude of the crisis already apparent in many of the countries in which the company invests. To tackle the climate emergency in Asia and Africa, it is critical that CDC invests to help build green energy capacity in the countries it invests in, and supports decarbonising the energy mix while promoting productive, sustainable, inclusive growth.

In 2021, CDC pledged to invest around \$1 billion in climate finance in India over the next five years. This commitment will help the company prioritise investments in climate-resilient infrastructure with a critical focus on clean power, energy systems and resource efficiency. CDC will support companies using an array of financial products, including direct loans, equity investments and creating pooled investment vehicles to help mobilise capital in this sector.

**Sustainability:** CDC's climate change strategy and new five-year strategy articulates its mission to help transform economies in Asia and Africa. The goal is to make investments that increase climate resilience and adaptive capacity in business, people and nature, future-proof jobs and businesses, and support the circular economy by reducing the environmental footprint of economic activity. A CDC investee helping to reduce carbon footprint is CropIn, a specialist in software for agribusiness. The company's digitised farm management processes enhance local farmers' ability to deal with the effects of challenge of climate change. Studies show that, on average, climate resilience improves for 92 per cent and farmers' incomes increase by 25 per cent in the first year of using CropIn's technology.



## STRONG TRADE AND INVESTMENT BETWEEN INDIA AND THE UK

UK Export Finance has over Rs 40,000 crs (£4 Billion) to develop key sustainable and green infrastructure projects in India, **Rahul Tabhane**, Country Head – India, UK Export Finance

UK Export Finance is a ministerial department of the UK Government, led by Secretary of State for International Trade. Operating since 1919, UKEF is the world's oldest export credit agency that provides overseas companies with attractive medium to long-term financing to make sourcing from the UK more competitive.

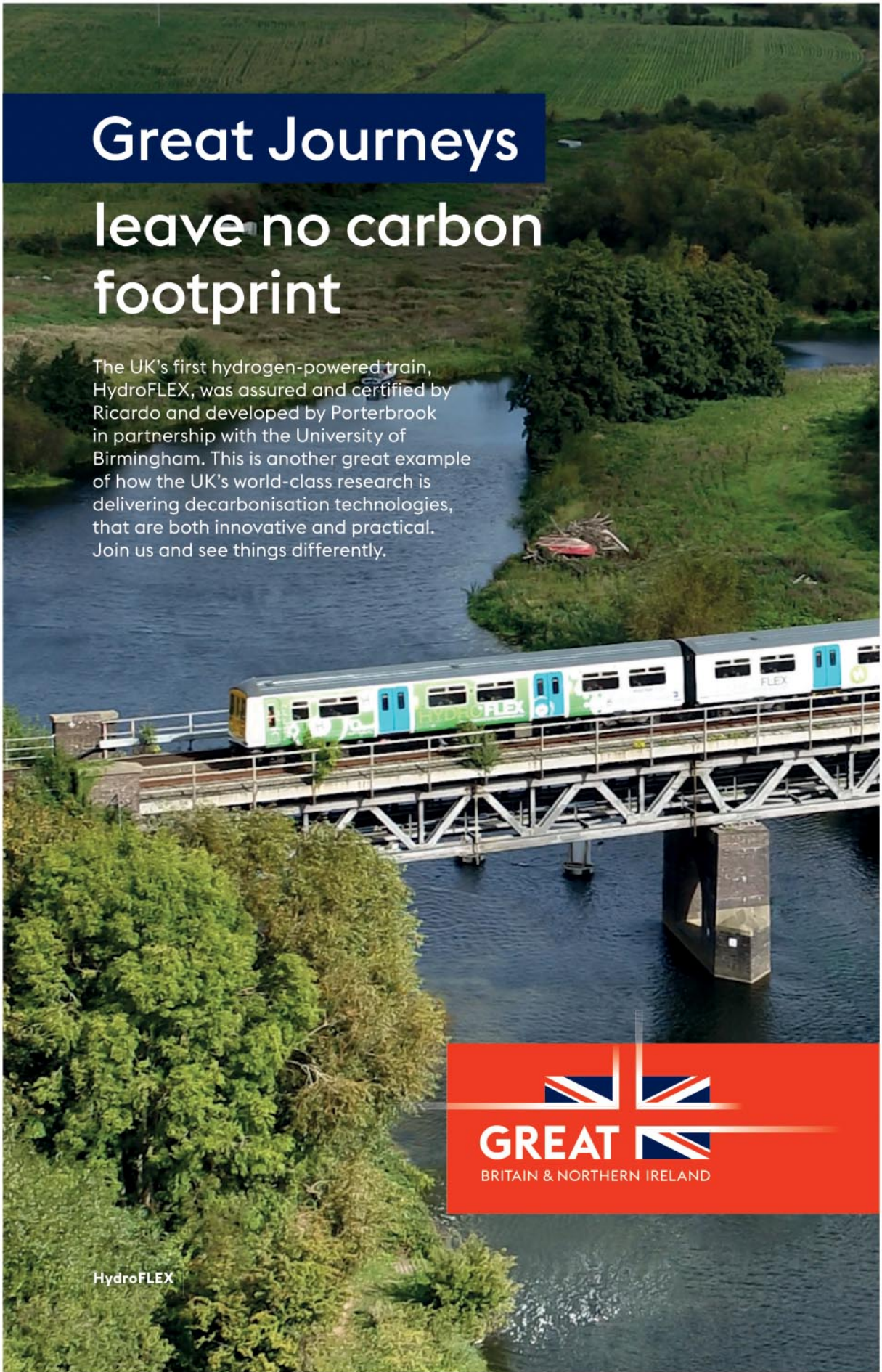
UKEF supports via provision of 100% UK government guarantee in multiple currencies, including Indian Rupees to credit enhance projects and mobilise commercial capital. It can also provide long-term direct funding from HM Treasury at fixed interest rates, especially for green and defence related projects. UKEF needs a minimum 20% UK content via inclusion of UK goods, services and intangibles.

UKEF's support is available across all sectors (except fossil fuels) and can help Indian sovereign, sub-sovereign, public and private buyers. It is flexible, and can consider variety of financing structures such as simple equipment finance, asset backed finance and non-recourse project finance. It can underwrite a minimum ticket size of Rs 10 crs and offers up to 18 years favourable repayment terms for large ticket green project opportunities.


UKEF has committed to reach net-zero by 2050 across its asset portfolio and no longer support fossil fuel projects overseas. It doubled the amount of support it provided for sustainable projects to £2.4 billion in 2020, ranking second for sustainable finance in a global league table of export credit agencies.

### Great Journeys leave no carbon footprint

The UK's first hydrogen-powered train, HydroFLEX, was assured and certified by Ricardo and developed by Porterbrook in partnership with the University of Birmingham. This is another great example of how the UK's world-class research is delivering decarbonisation technologies, that are both innovative and practical. Join us and see things differently.



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