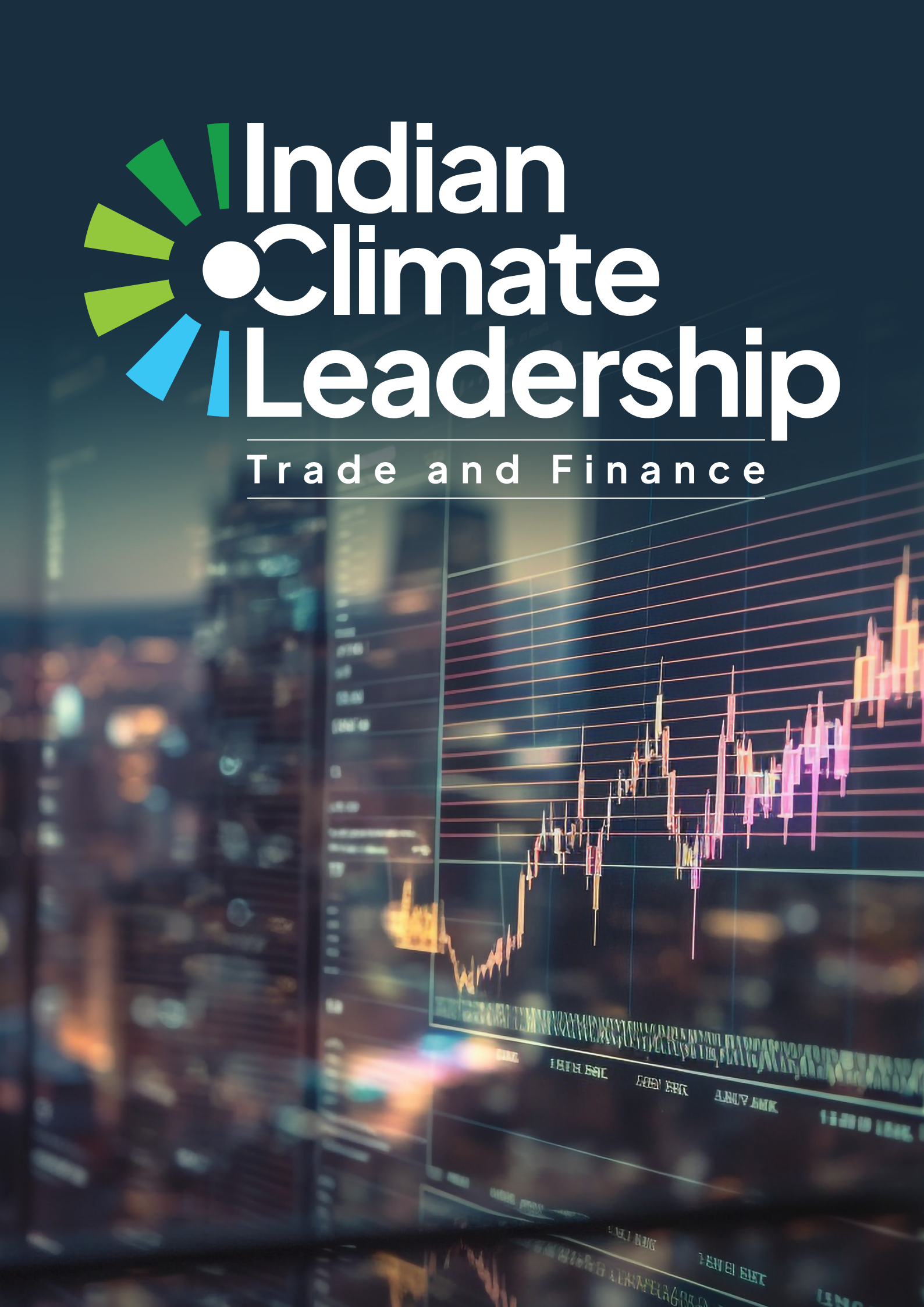
Indian Climate Leadership

Trade and Finance



1. India's green growth trajectory

India is one of the fastest growing economies in the world (with an average GDP growth rate of 6.2 percent since 1990) and is projected to remain the most populous country (with a population of 1.66 billion in 2050)[1]. Between FY 2019-20 and FY 2022-23, India's real GDP growth rate has risen from 3.9 percent to 6.9 percent[2]. Several factors have underpinned this growth: strong domestic demand and investment activity, infrastructural development, and private consumption[3]. However, India's growth potential implies that its demand for energy is likely to grow faster than any other country in the coming decades, contributing significantly to carbon emissions and environmental damage. In fact, even though India's per capita emissions are significantly lower than industrialised countries, India's overall annual carbon emissions are ranked the third highest in the world and are projected to grow rapidly in the future, unless acted upon through strategic actions.[4]

Against this backdrop, India has announced that it is committed to reach net zero emissions by 2070, and that it will reduce its emissions intensity by 45 percent below 2005 levels by 2030[5]. Such commitments are pivotal for India's 'green growth'. Green growth implies a situation wherein growth strategies are re-designed based on their potential impacts to environmental sustainability, and the level of economic opportunities and ecological resources available to poor and vulnerable communities[6]. However, India's green growth requires funds to support investments in greener technologies, financing of sustainable infrastructure, and switching to cleaner fuels. In particular, India needs strategic climate finance and targeted investments focussing on additional renewable energy capacity, mitigating agricultural emissions while creating sustainable food supply, and building climate resilience in cities[7]. Here, it is crucial to ask: *Can growth in India truly be 'green'? To what extent should resources be allocated for India's green growth, given other pressing economic challenges such as fiscal deficit, public debt, and poverty? Which stakeholders/institutions are best placed to fund India's green growth? What are the levels of climate finance that can be realistically expected from domestic and foreign sources? With India growing at 7 percent per year, what level of funding is needed to mitigate the associated environmental damages, and to ensure a green transition? How can India ensure that its climate financing mechanisms translate into real capital flows?*

2. Financing India's green transition

With sustainability becoming a national, cross-policy and sector-wide agenda, there is growing recognition of the importance of climate finance. Climate finance is still evolving in the Indian context, and different institutions/stakeholders have given it various shapes and forms.

The **public sector** has taken important steps to fund India's green growth. However, government spending on climate action accounts for only 2.6 percent of India's GDP, and India presently faces a funding gap of 38 billion USD to ensure effective climate action[8]. In terms of key climate finance initiatives, India launched two tranches of sovereign green bonds – equivalent to USD 980 million and USD 968 million respectively – with the express purpose of mobilising resources to fund green growth projects (including those focussed on renewable energy and electrification of transport systems) and reducing the carbon intensity of the economy[9]. Currently, the market for Green Social, Sustainability and Sustainability-linked (GSSS) bonds, which includes green, yellow (solar) and blue (marine) bonds, is gradually gaining momentum[10]. In fact, at present, India leads Asian emerging markets (excluding China) in green bond issuance, and local government bodies/agencies have innovatively utilised these financial instruments to fulfil climate finance targets. Notably, Ghaziabad Nagar Nigam, a civic body in Uttar Pradesh became the first local government in India to issue a green bond (valued at USD 20 million).[11] Further, the city of Indore became the first city to list municipal green bonds on the National Stock Exchange's (NSE) debt securities platform. Through this, Indore was able to raise INR 720 crore, to build a 60-megawatt solar power which will pump water

[1] Department of Economic and Social Affairs, United Nations. 2022. *Link*.
[2] World Bank. 2023. *Link*.
[3] World Bank. 2023. *Link*.
[4] International Energy Agency. 2022. *Link*.
[5] International Energy Agency. 2022. *Link*.
[6] The Energy and Resources Institute. 2015. *Link*.
[7] Climate Finance Initiative. 2020. *Link*.
[8] Centre for Budget and Governance Accountability. 2017. *Link*.
[9] World Bank. 2023. *Link*.
[10] Ernst and Young. 2023. *Link*.
[11] Press Information Bureau. Government of India. 2022. *Link*.

from the Narmada River and provide renewable energy across two villages[12]. Further, in recognition of the financial constraints expressed by the Ministry of New and Renewable Energy (MNRE), the government has authorised 100 percent annual Foreign Direct Investment (FDI) in renewable energy generation and distribution projects[13]. Here, let us discuss: *Is the public sector's contribution to climate finance adequate to meet India's climate action commitments across 2030 and 2070? How can the public sector balance green financing with the funds required for legacy sectors/industries, which have been traditionally funded through direct public financing? To what extent can green bonds be sustainable sources of climate finance in the Indian context? What innovative mechanisms of climate financing can be adopted in partnership with the private sector? Can India envision public private funding partnerships dedicated towards specific climate action goals (as is done by the public-private partnership LEAF Coalition[14], which tackles deforestation through innovative financing)?*

In addition, **development financial institutions (DFIs)** and **multilateral development banks (MDBs)** - including the World Bank, Asian Development Bank, and Asian Infrastructure Investment Bank (AIIB) – play a crucial role in delivering international public finance, convening private capital at scale, and in providing strategic policy advice[15]. Notably, the World Bank has committed USD 1.5 billion to accelerate India's development of low-carbon energy – including the scaling up of renewable energy sources, and the development of green hydrogen[16]. Going forward, India will need to harness DFIs and MDBs to co-invest as like-minded investors – alongside private investors – to fund climate action in India through blended finance models. Blended finance models can include grants, technical assistance, and concessional financing, as well as credit guarantees[17]. Further, ensuring coordination and cooperation between the climate and safeguard units within these institutions, and across public sector organisations will be crucial – to develop a unified approach to funding India's green growth. In this context, it is important to discuss: *How can the technical and financial capital of DFIs and MDBs be adequately leveraged to finance climate action in India? Is the World Bank's $1.5 billion commitment for India's climate finance sufficient – and are there other ways in which the World Bank (and other such MDBs) should support climate action in India? In what ways can government agencies partner with DFIs and MDBs to maximise climate financing in India? What is the scope for blended finance in the context of India's green growth?*

The **private sector** has a crucial role to play in India's climate finance, particularly since investing in greener technologies offers large private sector organisations with the once-in-an-era opportunity to leapfrog from legacy technologies to cutting edge ones. Such transformations can potentially take place across multiple sectors, including smart and decentralized grids, energy-efficient green buildings, infrastructure, freight and logistics, industrial manufacturing, energy generation, and agriculture[18]. The private sector has taken some steps in the direction of enhancing their contributions to climate finance – including investing in universal net zero energy access (as done by Reliance through its New Energy Initiative in Jamnagar), and reallocating Corporate Social Responsibility (CSR) funds to finance clean energy and climate-smart infrastructure. In fact, CSR spending can be a small, but important avenue for private sector contributions to climate finance – 16 of the top CSR spending firms in India are highly fossil dependent (such as NTPC, Power Grid Corporation, Coal India Limited, IOCL and ONGC) – and reallocation of their CSR funds towards climate finance could be an important way for them to offset their carbon emissions and approach net zero targets[19]. At the same time, Indian companies should look to dedicate funds from their mainstream capital pools (rather than only relying on CSR funds) to invest in green energy and more sustainable supply chains, thereby fostering economy-wide green growth. At present, while a small pool of Indian companies have started taking steps towards embedding sustainability in their operations, the vast majority of private sector enterprises have yet to demonstrate actions towards financing climate action in India[20]. In this context, it is crucial to ask – *How can the private sector be incentivised to play a bigger role in climate finance in India? What are the different avenues/mechanisms through which India's private sector can enhance climate finance? To what extent can private-public funding partnerships help address present gaps in India's climate finance? Can the PLI scheme incentivise the private sector to prioritise green growth in India?*

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[12] Government of Madhya Pradesh. 2022. *Link*.
[13] Ernst and Young. 2023. *Link*.
[14] LEAF Coalition. 2023. *Link*.
[15] British International Investment. 2023. *Link*.
[16] World Bank. 2023. *Link*.
[17] British International Investment. 2023. *Link*.
[18] Carnegie India. 2023. *Link*.
[19] British International Investment. 2023. *Link*.
[20] British International Investment. 2023. *Link*.

Private capital has started prioritising investments in climate-smart technologies; however, progress has been slow. In fact, out of the £27 billion of such investments in the first half of 2022, £2 billion of investments went to Indian firms – making climate tech in India a relatively under-invested area[21]. In India, venture capital firms and private equity have begun to direct their funds towards start-ups and early-stage enterprises with a sustainability agenda[22]. In particular, private capital has funded India's mobility and transportation sectors – with banks offering green car loans and non-banking financial institutions extending credit to enterprises involving electric vehicles (EVs) and cleaner energy sources. However, while there has been a growth of early-stage capital, there are gaps in domestic venture capital for the later stages – particularly when the working capital requirements rise. Here, it is vital to discuss: *To what extent can private capital fund India's green growth? How can newer (and bigger sources) of funding that sustainably finance technologies/enterprises across all stages be identified? Can the present gaps in venture capital and private equity be adequately addressed through public sector support? How can we replicate the funding momentum (presently concentrated on renewable energy generation and urban passenger EVs) to other sectors?*

3. Pricing, trading, and taxing carbon emissions

In the context of growing carbon emissions globally, there are a range of mechanisms to price carbon – by placing fees on carbon emissions and offering incentives on reducing emissions. This price signal helps to shift consumption and investment patterns, thereby aligning economic goals with environmental welfare[23]. Carbon pricing can take various forms – including cap and trade systems (wherein limits are placed on carbon emissions, and emissions can be bought and sold among entities within the limits placed), emission reduction funds (which are taxpayer funded schemes wherein the government buys credits created by emission reduction projects), and carbon taxes (which incentivises a move away from carbon intensive production processes) [24].

In charting out India's climate finance trajectory, it is important to consider the mechanisms through which carbon emissions are traded and taxed – as these vitally influence India's green growth prospects. For one, the Paris Agreement creates provisions for the creation of international carbon markets, wherein carbon credits are bought and sold. Companies and individuals can compensate for their carbon emissions by purchasing carbon credits from other companies and individuals who remove or lower carbon emissions[25]. In the Indian context, the Government has announced its priority to utilise domestic resources to fund a domestic carbon market using mature technologies, in pursuit of the country's carbon emissions reduction goals[26]. This will also ensure that India's high emission sectors are able to purchase domestic carbon credits at affordable rates, rather than being unfairly subject to buying more expensive credits from other countries.

As India builds its own carbon market, it is important to consider certain key factors necessary for its success. First, developing a carbon market in India will involve elements of institution-building– including the development of a national registry to document the traded credits. Second, it would involve significant capacity building for government stakeholders at the national and sub-national levels – to help identify projects which will lower environmental damage, and to understand the ways in which they can trade carbon credits while ensuring maximum reductions to the country's overall carbon emissions. Both institution-building and capacity enhancement should work towards creating a high-integrity market that participating entities (companies, enterprises, individuals) find clear, consistent, and transparent. Finally, adopting professional accreditation protocols will also go a long way in verifying and validating the carbon intensity of various entities, in line with international standards. Going forward: *What policy and financial support is required to ensure a well-developed, functioning, and competitive carbon market in India? In what ways can India's carbon market ensure compliance with international climate action and emissions reduction goals? Should India reconsider its strict limit on cross-border trade in carbon credits?*

Further, international trade agreements also have implications on India's green growth prospects. In particular, the European Union (EU) launched the Carbon Border Adjustment Mechanism (CBAM)[27] in 2022, with the purpose of protecting domestic industry in the EU, by transforming carbon emissions taxation in international trade. One of the stated goals is to encourage non-EU countries to embrace

[21] Economic Times. 2022. *Link*.
[22] Ernst and Young. 2023. *Link*.
[23] United Nations Framework Convention on Climate Change. 2023. *Link*.
[24] United Nations Framework Convention on Climate Change. 2023. *Link*.
[25] United Nations Development Programme. 2022. *Link*.
[26] Oxford Institute for Energy Studies. 2023. *Link*.
[27] European Union. 2022. *Link*.

cleaner and more sustainable production processes. This is ensured through emission measurement across upward value chains, and CBAM taxation on goods from non-EU countries until net zero emissions on those goods are achieved. This poses several challenges to India, considering that the EU is India's second largest trading partner. For one, the sectors covered by CBAM involve 'hard-to-abate' sectors and the emissions intensity from these Indian products/sectors remain high – and therefore prone to significant levels of CBAM taxation. It is estimated that CBAM taxation will translate to average tariffs ranging from 20-35 percent on iron, steel, and aluminium products, from the current average 2.2 percent bound tariffs agreed by the EU at the WTO for manufacturers[28]. This in turn could disrupt India's metal exports to the EU, valued at USD 8 billion. Further, the emissions reporting process is costly – under CBAM, suppliers are required to report the greenhouse gas emissions 'embedded' in their consignments before taxes are levied from 1 January 2026, and most Indian MSMEs do not have the technical expertise/resources to be able to measure embedded emissions and report on it, within engaging external help at additional cost.

By placing significant financial burdens through taxation on developing economies, the CBAM regime threatens to be discriminatory and in conflict with the principles of equity and 'common but differentiated responsibility' (CBDR) built into the Paris Agreement. At the outset, the CBAM threatens to set the stage for global inequity – wherein industrialised nations with a legacy of high carbon emissions impose taxes on developing nations with lower emissions. Further, by applying CBAM taxation to 'trade exposed' industries such as steel, aluminium, chemicals, plastics, polymers, chemicals, and fertilisers, the CBAM system is a risk for the overall competitiveness of Indian exports. Against this backdrop, it is crucial to ask: *How should India respond to international taxation regimes such as the CBAM? In what ways can India minimise the costs associated with the CBAM, while retaining India-EU trade relations? To what extent can India impose protectionist policies to preserve its own trade interests, while remaining committed to overall climate action goals? Should India introduce its own system of global carbon taxation as a retaliatory measure towards the developed world?*

The role of domestic punitive barriers is also significant here. Notably, India does not impose an explicit carbon tax, but imposes fuel excise taxes as an implicit form of domestic carbon taxation – covering 54.7 percent of emissions (as of 2021)[29]. As part of this taxation regime, a range of fuels are taxed – including crude petroleum, aviation turbine fuel, petrol, diesel, natural gas and compressed natural gas (through the Basic Excise Duty), gasoline and diesel fuel (through the Special Additional Excise Duty). In this context, it is important to analyse the financial implications of these taxes, and their effectiveness in lowering carbon emissions and in encouraging more pronounced shifts towards cleaner energy sources. It will also be important to consider if carbon taxes (even if employed through indirect mechanisms) should be applied to other sectors/industries – to ensure maximum reductions in carbon intensity, while preserving economic and ecological benefits. *Is there a need for explicit carbon taxation in India? Do punitive measures like carbon taxes adequately tackle carbon emissions? Can India replace existing punitive measures with incentive-based schemes (such as the PLI scheme) instead*?

4. Embedding sustainability in policy and practice

Ensuring green growth at scale requires embedding sustainability across the priorities and actions of various institutions/sectors. For one, it is important to ensure sustainability across supply chains – by reducing water and energy usage, switching to renewable sources of energy, and reducing hazardous waste creation[30]. There are various ways to build sustainable supply chains for manufacturing and trade – including through the development of smart warehouses (which use energy management systems and dispose off wastes in a systematic manner), use of electric vehicles and cleaner fuels, optimisation of surfaces in factories/buildings (to build solar rooftops) and through the periodic measurement and reporting of environmental benefits/costs. Here, it is important to discuss: *What are the cost implications of embedding sustainability across supply chains? Do specific sectors or types of enterprises (such as MSMEs) require additional funding and/or technical support to achieve sustainable supply chains?*

Further, incorporating sustainability principles in public procurement will be an important pathway to ensure India's green growth. Notably, public procurement in India contributes to about a third of India's Gross Domestic Product (GDP)[31]. While systems of Indian public procurement currently function on principles including efficiency, economy, equity, fairness, and promotion of competition – the inclusion of environmental factors/parameters is not as yet adequate. Going forward, India should look to use public procurement as a tool to sway market trends in favour of environmentally and socially responsible

[28] Global Trade Research Initiative. 2023. *Link*.
[29] Organization for Economic Cooperation and Development. 2022. *Link*.
[30] KPMG. 2022. *Link*.
[31] Organization for Economic Cooperation and Development. 2014. *Link*.

production processes[32] Key steps for sustainable public procurement will include the development of comprehensive criteria related to environmental benefits/costs, identification of key priority products for sustainable purchasing, adherence to international and national standards/accreditation for judgment of production processes, and assessment of supply chains. Here, it is important to discuss: *To what extent can public procurement be made sustainable? What forms of tools/guidelines would be necessary to ensure 'green sourcing' and sustainable public procurement in India?*

In addition, Environmental, Social and Governance (ESG) reporting frameworks are also crucial for embedding sustainability. In India, the Securities and Exchange Board of India (SEBI) introduced the Business Responsibility and Sustainability Reporting (BRSR)[33] in 2021 – to streamline business reporting processes, and to ensure the transparent disclosure of financial and non-financial parameters (including ESG and sustainability related information). The BRSR reporting is mandatory for the top 1000 listed companies in India and can prove to be helpful for companies in a number of ways – including identifying future areas for ESG interventions, enhancing their sustainability and social responsibility practices, and attracting socially responsible investors. Going forward, it would be vital to ask: *Does India have sufficient reporting frameworks/standards to capture climate action and emissions reduction by the private sector? Is the BRSR framework comprehensive, and sufficient for capturing data on India's ESG landscape? How can the data from the BRSR be integrated into financial reporting parameters (including sales, profitability, growth etc) to aid investment decisions? Can the BRSR pave the way for the creation of a Green Sensex? In what ways can the BRSR reporting be extended to smaller companies and enterprises, such as MSMEs? Can versions of BRSR reporting be applied to other institutions, including NGOs, CSOs, research organisations and academic institutes?*

[32] Organization for Economic Cooperation and Development. 2014. *Link*.
[33] Securities and Exchange Board of India. 2021. *Link*.

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