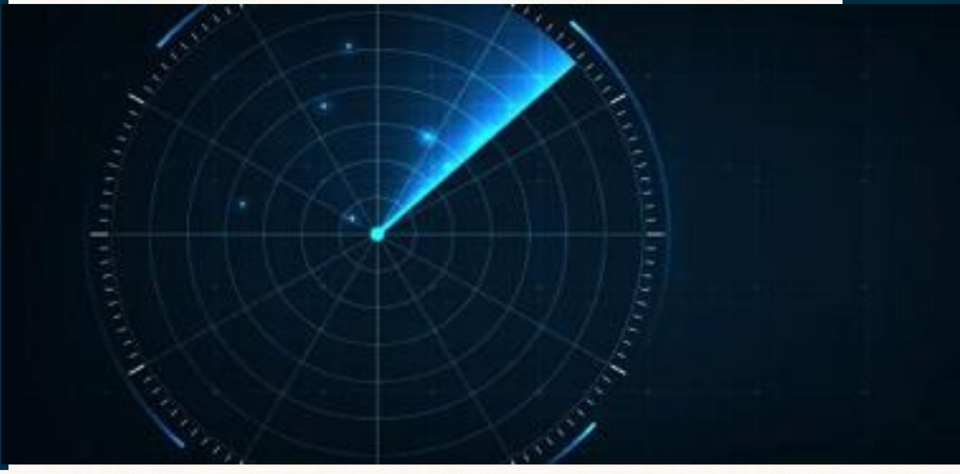
MONTHLY POLICY NOTE

April 2022

PRIMUS PARTNERS

Navigating INDIA



"Don't wait – The time is never just right"
– Mark Twain

INSIDE THIS EDITION

This edition of Primus' Monthly Policy Note covers a host of topics that India will and should be looking at in this decade.

This is the time. This is the decade.

From core security and infrastructure set-ups in the Andaman & Nicobar islands and giving an impetus to the country's start up economy and MSME segment, to ensuring that development is not at the cost of climate and environment and modernizing the defence ecosystem in the country - this edition of the note gets into the details of how everything is being planned.

In our expert section, we have insights from Ms. Smita Purushottam on the importance of R&D, and how technology and innovation need to be at the core of anything that is planned.

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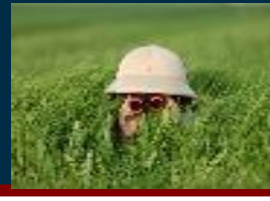
PRIMUS RESEARCH

MONTHLY **POLICY NOTE**



In this Issue

We hear you!!
Participate in our polls on LinkedIn and tell us what you want to read in the next edition.

Policy Square | A Primus Partners initiative to understand the more fundamental questions in policy making

Primus Partners on 28th December 2021 launched **Policy Square**, in association with Businessworld.

Policy Square, an initiative by Primus Partners, is a monthly expert interview series wherein key constituents of the public policy ecosystem – senior policy-makers, civil society members, business executives, and so on are interviewed on policies of national importance and critical issues to explore their impact on the country and industry at large.

The motivation for the Policy Square series is driven by Primus Partners' rich policy-regulatory knowledge, as well as experience of delivering projects across multiple sectors, with an aim to leverage this knowledge, and create a platform to table in-depth discourse.

As countries stride towards action for collective priorities on climate change, and sustainable-financing finds its way into the Union Budget, we were joined by Mr. C.K. Mishra, former Environment Secretary and Chairperson of Expert Committee on Sustainable Climate Finance, to dissect India's priorities and position.

Mr. C.K. Mishra, during the Policy Square Interview, highlighted the importance of finance and technology driven innovation, sector-focused climate action, enhanced private sector participation, as well as awareness generation among citizens via communication and knowledge sharing, as some of the key factors that could help translate India's climate commitments into action.

Link to the full interview: Policy Square S01 E04

Our take

Considering the unequal impact of climate change on small businesses and MSMEs, and the barriers faced by them in accessing climate finance, there is a need to create financial instruments and liberalize access to finance for this segment. There is an imbalance between mitigation and adaptation finance, with the latter receiving a very small share of climate finance, and hence there is a need to have a strategy to increase investment in climate adaptation efforts. It is important to increase investment in hard-to-abate sectors and establishing an economic model of return-on-investment for the same.

Coming Up Next!

A conversation with Mr. Vijaya Sai Reddy, Member of Rajya Sabha and Chairperson of the Parliamentary Standing Committee on Commerce, to talk about his role as the chairperson, important agendas for this year and how the committee is working towards attracting investment after the pandemic.

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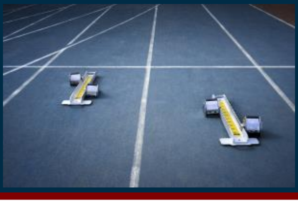


Start-ups impact on Indian economy
- Towards ensuring that the relationship remains happily ever after

Start-ups are the strongest manifestation of entrepreneurship and innovation which play a significant role in the economic growth of the country.

As per the recent Economic Survey, India has become the third-largest start-up ecosystem in the world after the US and China, with total number of recognised start-ups in the country surpassing 60,000. Progressive initiatives and policies by the Government such as Start-up India, SAMRIDH scheme and Start-up India Seed Fund have contributed to the dynamic evolution of Indian start-ups by providing financial assistance and promotional platforms, leading to increasing employability towards achieving sustainable economic growth.
Further, to strengthen India's position at the global stage, Hon'ble Prime Minister announced January 16 as the National Start-up Day. While the Government has taken effective steps by setting the underlying foundations of the start-up ecosystem, for entrepreneurs to resonate with zeal and zest, it is important to kick **START** the start-up ecosystem post the pandemic with the following **5 pillars –**

Strengthening research- In a rapidly growing economy like India, it is important for companies to transition beyond current capabilities in order to sustain themselves. More than 80% of start-ups risk failure in the first 5 years because they lack pioneering innovation based on new technologies or unique business models. The government should encourage and invest in research that can enable creating new technology because it is the primary driver for the long-term sustenance of a business in any industry. The Government should plan on strengthening research by building innovation centres at national and government institutes, launching innovation focussed programs for students, promoting start-ups in emerging technologies and sectors which will need an initial push, such as electric vehicles.

Technology enablement- Technological innovation, along with significantly increases the productivity of economic enterprises and the welfare of citizens. Post the pandemic, the need for modern technology and digitalization became an imminent need for companies to be agile and flexible in rapidly changing landscape. Need for emerging sectors such as IT, telecommunications, fintech etc has been felt strongly. The Government should create a digital learning platform and promote digital tools to support such businesses so that they can contribute in nation's growth and sustainability.

Access to collateral-free loans- Public funds are also used to finance institutional forms of entrepreneurship support in the form of incubators, accelerators and technology parks, which encourages innovation and the establishment of start-ups. However, financing of start-ups in India has followed the Anglo-Saxon Model, which encourages entrepreneurial activity through financing from private and venture capital, as they are considered too risky by banks. The Government should encourage financing of start-ups through loan schemes such as Start-up India Seed Fund Scheme and SIDBI Funds of Funds such that collateral free debt is provided to aspiring entrepreneurs and they can get access to low- cost capital.

Regional Development- Start-ups have recently begun to spread benefits beyond traditional locations and are growing a vibrant regional economy. Thus, government should focus on cluster and regional development by providing incentives to start-ups in backward blocks. For instance, Zoho company, software major has opened offices non-urban centres leading to increase in income levels of the local community and improving the quality of life in the region.

Team up- In order to achieve competitive advantage in business, it is important to encourage teaming up through collaborations with corporates, academic institutions and industry associations. Ecosystems worldwide have shown that a robust corporate & start-up collaboration will democratise and promote innovation. For example, German engineering multinational Bosch launched Start-up Harbour, an open innovation program that fosters collaboration between the corporate's business units and start-ups.

Thus, in recent years there has been an increase in start-ups in versatile areas like retail, food delivery, consulting, e-commerce, medical services, other delivery services, fitness, among others. This has not only led to regional and economic development but also encouraged vulnerable sections of the society.

Our recent publication [Start-up accelerators: Engines of Economic Growth](#) makes for an impactful reading suggesting how both accelerators and startups are required to ensure that entrepreneurial contribution to the economy expands.

Growth of the Indian start-up ecosystem needs to be built on technology, innovation, skills, research, finance and collaborations.

Andaman & Nicobar Islands

- Carbon whose edges are being roughed, only now, to make it a diamond

With an area of almost 8,200 kms that has significance much beyond the geographical landscape, the Andaman and Nicobar (A&N) islands are currently the only integrated tri-services command of the Indian armed forces. They are very critical to India's strategy with respect to the Indo-Pacific region.

A Rs 10,000cr plan announced in 2015 was arguably a first serious attempt to develop the islands into India's first maritime hub. Up until then, the islands were seen more from a protectionist perspective of preserving natural resources.

Today, the A&N islands are considered a very strategic asset with development happening at all strata of the economy including infrastructure, communication as well as for trading and tourism purposes.

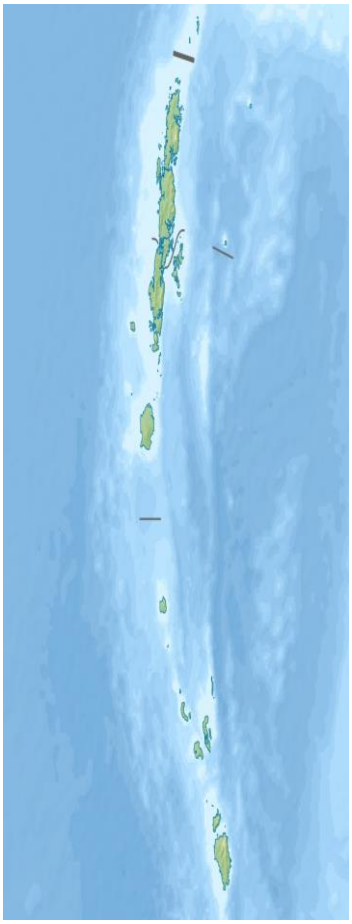
Today, the A&N islands are a key international node for trade with various routes crossing are getting linked at the many points with its boundaries.

The economics of the trade as well as the ease of connectivity are also enabling and / or can further enable relations with other countries including those as close as Singapore, Thailand, Indonesia, Bangladesh, Myanmar in Asia and as far as in Europe and Africa.

The relevance of the A&N islands as a strategic asset have further come to the fore in the recent past. Now, India has reportedly expedited plans for additional forces, weapons and defences in the A&N with naval air stations including INS Baaz and INS Kohassa expanding their operations.

The A&N is an area organically suited for India's relations with countries in South-East Asia; a coherent communication line along with bilateral / multilateral agreements will further help in consolidating the ecosystem.

Numbers seldom reflect the true value. A&N islands with only a ~0.05% share to India's GDP, only 0.40mn wireless subscribers and an installed power capacity of only ~75MW ,reportedly are witnessing significant fast-tracked development work due to their strategic location.



Important steps taken by the Indian government in the region include:

(1) Submarine cable project in 2020
(2) Expansion of Port Blair airport
(3) Development of trans-shipment in South Bay
(4) Building a FTZ and warehouse complex in the south western coast
(5) Expanding defence infrastructure
(6) Upgradation of INS Baaz

What is required, is to further brush aside the challenges, and ensure faster decision making with respect to India's defences on the A&N islands.
With a majority of the islands within the A&N region remaining uninhabited, it is an increasing risk and hence should also be looked at. Steps should be taken to encourage tourism in these areas so that there is increased footfall and control for India in these islands. That would also ensure a watch over movement of ships and vessels in these regions.

Further development of the A&N islands is also in sync with the "Act East" policy of the Indian government, whereby there is a concerted attempt to work jointly with the other friendly South-east Asian nations. Regional engagements like Security and Growth for All in the Region (SAGAR) and Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation (BIMSTEC) are examples of initiatives that can help drive the same forward.

It is imperative for India to make the A&N a stronghold both economically as well as militarily. This also increases India's involvement as part of groups like the Quad.

Further equipping the islands with more air strips would possibly add more teeth to the existing infrastructure, whereby aircraft like the P-8Is and fighter aircraft fleet can be based.

The Indo-Pacific region requires a stable security ecosystem and with a strong presence at the A&N islands, India can significantly contribute to the same.

Green bonds for Infrastructure:

- Green is no longer to remain "green" – time to rise and shine

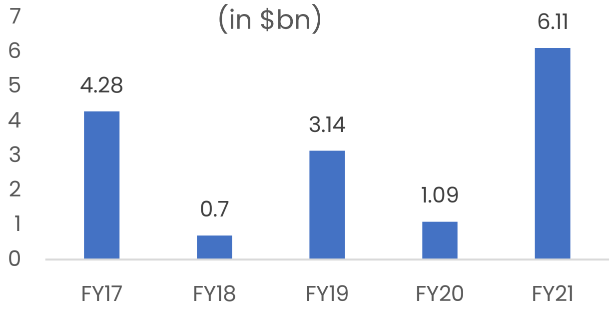
The Honorable Finance Minister, in the Budget Speech for Union Budget 2022-2023, announced that as a part of the Government's overall market borrowing, Sovereign Green Bonds will be issued for mobilizing resources for green infrastructure. The proceeds will be deployed in public sector projects which will help in reducing the carbon intensity of the economy.

Green bonds are government issued borrowings that are floated to fund and finance government debt. Green bonds differ from more conventional securities in the way that the issuer pledges to use the amount raised - purely towards financing projects that have a net positive contribution to the environment. This is a welcome step towards helping India meet its demand of achieving net zero emissions by 2070, especially with the Indian economy being the third biggest carbon emitter in the world.

As green bonds are issued for projects earmarked as 'green', they have the potential to attract a larger pool of investors globally, in view of the rapid integration of environmental, social and governance (ESG) metrics in the process of investment analysis.

Apart from being a good alternative to conventional bank debt, which is subject to sectoral limitations, green bonds are an effective tool in driving down cost of capital and reducing asset liability mismatches.

The first green bond was launched in 2007 by European Investment Bank to raise funds for a renewable energy project through structured debt. India's first green bond was launched by Yes Bank in 2015 to raise Rs 5cr to enhance long-term resources, for funding infrastructure projects in renewable and clean energy projects such as wind, solar, biomass and hydropower.



India issued $6.11 billion in green bonds during 2021 and is looking at an even stronger 2022. Sovereign Green Bonds will be Rupee denominated and will raise capital for the medium to long term period, to fund infrastructure projects. The core of the investments will lie in the framework being developed, to assess which projects qualify for these investments.

Sovereign Green Bonds have been allocated to a variety of climate adaptation and climate mitigation projects, with most of the proceeds going to clean transportation, followed by climate change adaptation projects and aquatic biodiversity conservation.

75% of Indian districts, where over 638mn Indians reside, are classified as extreme climate event hotspots. The frequency of extreme climate events such as cyclones, droughts, and floods pose a serious risk to India's infrastructure. Hence, injecting climate resilience into core infrastructure such as roads, bridges, and electricity transmission and distribution networks should be one of the major focuses of the sovereign Green Bond.

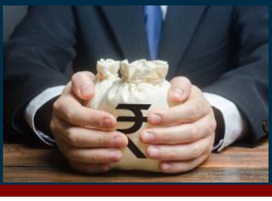
Similarly, it can support the proliferation of electric buses and allied charging infrastructure in India by providing cost-effective financing options. New technologies such as energy storage—to support India's grid integration of 500 GW of non-fossil energy capacity by 2030 — and green hydrogen projects also require the government's support in order to be financially viable to private investors.

In line with the overall ambitions of being Net Zero by 2070, green bonds are a positive step towards the target. Such bond issuers would also need to provide details with respect to the project that they intend to finance with the proceeds, as well as the expected climate and environmental impact of the same. This is therefore expected to bring checks and balances into in this segment. For this to be successful, **it is important to have a mechanism at the national level to identify, invest, monitor and evaluate the impact of such issuances, both at a commercial level, as well as at an environmental level.**

By 2020-end, 24 national governments have reportedly already issued similar sovereign green social sustainability bonds totaling about $111bn.

India's steps are in the right direction and will enable the achievement of SDG 2030 goals to a large extent. It will hence be important to get the framework out at the earliest so that the first tranche can be raised by the end of this year. Interest rates being an important metric, should also be competitive to ensure maximum interest and participation so that the momentum with respect to green bonds is maintained. However, it will also be important to balance the existence of both the old legacy as well as the new greener aspects of the ecosystem.

Green bonds and subsequently "green proceeds" are an important potential development that should be able to finance climate resilient technologies, be it in infrastructure, transportation or even food.



Defence Fund

- Billions of dollars required for defence modernization – show me the money!

The Parliament's Standing Committee on Defence in a recent report put forth the idea for creation of a non-lapsable defence modernization fund – the objective of which is solely to procure defence assets at critical times.

Given that the capital procurement component of India's defence budget is generally a third or less of the total, discussions about setting up of such a fund are not new in defence circles. The report so tabled, has suggested creation of such a fund at the earliest, to ensure procurements can happen without having to seek supplementary or additional grants.

Looking at the defence budget numbers, while a third of the defence budget is only allotted for capital defence procurements, almost 80-85% of the same is generally for committed liabilities leaving a small fraction for any new procurements. Given the modernization plans of the Indian forces, this small fraction plugs only a portion of the requirement.

Hence, the need for additional sources of funds is an imperative cause for concern. Defence, as a strategic sector, still has a high ratio of imports vs exports. The defence infrastructure base in the country is being enhanced and is being made more competitive. However, the high capital investment and long gestation period required in the sector restricts the expectation of immediate returns.

Hence, while as a nation we are focussing on indigenous design, development and production, it is important to find sources to fund the initiatives for enhancing both capability and capacity.

Highlighting possible avenues which can be explored where such a fund when created which can fuel the growth of investments in the Indian aerospace and defence ecosystem include the below:

Defence offsets balance: An annual discussion point, offsets have not yielded the magnitude of results that were expected from it as a policy measure. The numbers suggest that more than $9-10bn worth of offset obligations are still pending to be discharged by foreign vendors.

Irrespective of the possible causes for such delays in meeting obligations, which include among others: (1) India's capacity to absorb offsets within the confines of the eligible list of goods and services and (2) lack of a comprehensive understanding of the Indian defence landscape – the gist of the matter is that there is an investment opportunity to be tapped, but it is not being availed.

The value of undischarged obligations till date can be possibly used in a phased manner, to create such a fund, whose sole purpose would be to fund capital procurements and / or R&D. Here R&D, for all intents and purposes, can include organic as well as external (buying out global IPs). This is a low hanging fruit and can be arguably executed at the earliest.

Share in the cess and surcharge pool from gross tax revenues: A percentage of the collections as part of cess and surcharge could be set aside for contributions to the national defence fund. A mechanism maybe put in place, whereby the same is used to fund the modernization plans for the defence industry. This would potentially require modifications in the existing rule books, and the pros and cons of such an exercise can be evaluated.

Merging the Defence Pension Head with Central Govt Pension Head: Defence Pensions in FY22-23 budget account for almost Rs 1.2 lakh cr. If this can be clubbed with the Central Govt pensions, it potentially frees up resources for use in capital procurement and can add a good additional 40-50% to the existing capital procurement component of the defence budget. The modalities can be looked into and deliberated.

Share in the revenue from disinvestments can be set aside to add to the defence fund: A small percentage of the revenue from disinvestments can be set aside in the interest of defence forces upgradation. This could be done irrespective of the company being disinvested.

What is clear is that Indian defence modernization needs to be fast tracked, and this needs to be done from the inside. Extended reliance on foreign suppliers leave the forces vulnerable in times of crisis, like the COVID pandemic and more recently the Russia – Ukraine crisis. Alternatives need to be thought of, a second supply chain needs to be identified as a stand by, and resource availability in the country needs to be mapped. All of this is part of a process that has surely been started already. However, it needs to now be fast tracked. This decade is critical from many aspects for India's defence and security targets and ambitions. Self reliance is the need of the hour but strategic independence takes time to set in.

Till then the process and ecosystem can be so built that they becomes largely immune to supply shocks and technological challenges.

It is now high time that resources be utilized to the fullest to ensure that the defence forces modernization is not delayed due to lack of funds.

ECLGS scheme for MSMEs
- Why fear when ECLGS is here

MSMEs contributing significantly toward employment generation in the country

One of the primary drivers of India's economic growth has been the Micro, Small, and Medium Enterprises. The industry, while generating employment, also helps maintain regional balance by bringing industrialization to rural areas.

According to figures provided by the MSME Ministry, India has roughly 6.3 crore MSMEs, which contribute about 29% to the country's GDP. The sector provides employment to roughly 94 lakh persons [Udyam registered MSMEs], primarily in the manufacturing and service sector.

A sector heavily impacted by the pandemic due to its size and scale

Because of its size, scale of operations, and financial resource constraints, the MSMEs sector was severely impacted by the Covid-19 pandemic. The crunch of capital exacerbated by the risk perception of banks and financial institutions led to a high cost of capital with multiple MSMEs defaulting on their borrowings.

The Ministry of Micro, Small and Medium Enterprises had commissioned a survey to Small Industries Development Bank of India (SIDBI) to assess the economic impact of the pandemic on MSMEs. The survey of 1,029 enterprises revealed that two-thirds of the MSMEs were temporarily shut for 3 or more months in FY21.

Further, half the MSMEs surveyed saw a decline of more than 25% in revenues. Another online survey of 150 MSMEs conducted by MSMEs revealed that 50% of the respondents were yet to recover fully from the ramifications of the pandemic. 35% respondents stated they had to take external financial help to support their businesses.

ECLGS scheme instrumental in saving about 15 million jobs with MSMEs

Given this, the Emergency Credit Line Guarantee Scheme was a key plank in reviving the sector and increasing economic activity. Under this scheme, the MSMEs get up to 50% of the borrower's total outstanding credit, with a maximum of Rs 200 crore fully guaranteed by the government.

The scheme's success can be attributed to both public and private sector banks catering to the large and diverse MSME base.

- Public sector banks, leveraging their networks enabled the scheme to reach a higher number of borrowers in a timely manner
- Private sector banks, while taking longer for implementation, have disbursed loans with a higher ticket size than public sector banks, thereby catering to a different segment

The ECLGS scheme has been instrumental in supporting MSME credit health during the pandemic. Since its launch in May 2020, loans worth Rs 3.19 lakh crore have been sanctioned till March 25, 2022. About 95% of the guarantees issued are for loans sanctioned to micro, small and medium enterprises.

The scheme saved around 15 million jobs and stopped 14% [Rs 1.8 trillion] of outstanding MSME loans from turning into non-performing assets (NPAs). Of the 1.35 million MSMEs accounts that were saved due to the scheme, about 93.7% were in the micro and small category.

As per SBI, the trading sector, including small kirana shops, has benefitted the most followed by food processing, textiles, and commercial real estate.

Gujarat has benefited the most from the scheme, followed by Maharashtra, Tamil Nadu, and Uttar Pradesh. Due to the positive results, the scheme has been extended till March 2023 in the recent budget session.

Going forward, certain areas may be kept in mind to increase the impact of the scheme:

- Very small and micro enterprises having been affected the most, should continue to constitute maximum share of total borrowers.
- Public and private sector banks may focus on improving the accessibility of the scheme to even more remote areas to wider coverage
- The Credit Guarantee Fund Trust for Micro and Small Enterprises may be restructured leveraging ECLGS best practices, with its scope and responsibility extended.

MSMEs are the backbone for the Indian economy and every step that helps grow the capability, capacity and credibility of their business and parallelly the economy, should be encouraged

India - Road to Net Zero by 2070
- We will get there, but only if we keep going

India's clear commitment to reduce carbon emissions was one of the major highlights of the UN Climate Change COP26 in Glasgow. Considering India's planned economic transformation, it is necessary to focus on sectors that contribute to most of the GHG emissions. As per a report by WEF, India's "green transformation" will be driven by sustainable growth and reforms in five key sectors: Energy, Industry, Transport, Buildings and Agriculture.

Energy Sector: Contributing ~40% to India's GHG emissions, the energy sector requires a multi-pronged approach, involving all fossil fuel sources. With coal, oil and solid biomass accounting for ~80% of energy needs, decarbonization of the energy sector needs to be accompanied by reforms in the power sector, with a focus on renewable energy expansion. Unconventional technologies such as Floating Solar PV, Wind-Solar Hybrid Systems, and Geothermal Energy could be explored further. The government can endeavor to reduce GHG footprint via adoption of best-in-class technology. Government policy support will be an important factor in reformation of the DISCOMs, attracting investments in clean energy, raising additional financing, and driving electricity market reforms.

Manufacturing Sector: Contributing to ~20% to India's GHG emissions, this is a hard to abate sector. Within the sector, iron and steel, and cement, are major sources of emissions, thus making it imperative to decarbonize these industries for helping achieve India's net-zero goal.

Decarbonization of this sector could be explored via interventions around usage of green hydrogen. which can potentially reduce global CO_2 emissions by 2.3Gt per year. The National Hydrogen Mission, with a defined framework focused on production and technological advancement of green hydrogen along with a Circular Economy approach, in the form of Eco-Industrial Parks, could also be explored. Investment in R&D to make emerging technologies accessible, government policy support and incentives to guide businesses and industries towards sustainable technologies, and increasing global collaboration, will be imperative in enabling the transition.

Transport Sector: India's transport sector accounts for 10% of the total GHG emissions. Passenger transport accounted for 60% of India's energy use in transportation in 2020, while freight transport accounted for 40%. Similar to how Indian Railways has set a target of achieving net zero by 2030, other sectors could also follow suite with such a target-oriented approach. There is also a need to significantly focus on road transport emissions, particularly heavy-duty vehicles, that contribute to more than 60% of road freight emissions.

With only a 1 in 125 ratio currently in India, electric vehicles need to have a larger presence vis-à-vis legacy IC vehicles.

For 2- and 4- wheelers, EVs are sold at a 20% and 50% premium, respectively, compared to the IC vehicles. There is a need to carry out product innovation at a faster pace to reduce costs and make them more attractive for the Indian market. Another deterrent to EV adoption is the lack of charging Infrastructure, for which both the Center and the states need to collectively prepare an action plan for decentralized charging infrastructure. While the policy for battery swapping has been announced in this year's budget, the implementation plan for this should ideally be rolled out immediately, after consultation with states and the private industry.

Buildings and Infrastructure: The rapidly increasing urbanization in India has led to emergence of unplanned cities and urban spaces. India's top 25 cities are responsible for more than 15% of the estimated GHG emissions. This is an opportunity for developing and adopting low carbon technologies in buildings and infrastructure to promote energy efficiency and contribute to India's net zero target.

The green building sector in India presents significant opportunities for investment and expansion, since only 5% buildings in India are green. Certain factors including (1) the need for strengthening of regulatory framework with feasible and attractive financial models for developers and investors, (2) promoting uptake of green products via friendly tax structures, (3) enhancing capacity building programs and (4) encouraging corporates to play an active role in the promotion of green buildings through their CSR activities, could lead to an increase in demand for green materials and equipment.

Agriculture Sector: While the sector plays a vital role in the Indian economy, it is also a major emitter of GHGs, accounting for ~18% of total emissions - the majority of which occurs during the primary production stage. Hence, adopting sustainable practices in agriculture can be an essential climate change mitigation approach because of its direct contribution to GHG emissions.

Population growth and the need to enhance food production to meet the growing demands, may however prove to be a challenge in reducing GHG emissions and hence India is in the those of one of the most complex transitions. It would require empowerment of farmers and adoption of climate smart crops and clean technologies. This transition could be complemented by focusing on natural farming and "digital agriculture", highlighted in the recent budget, for a holistic reduction in sectoral emissions.

India's decarbonization pathway presents a multitude of opportunities in terms of job creation and economic growth. A mature climate finance market and clear execution strategies will be crucial factors in India's decarbonization journey.

Indigenous design-led manufacturing is key and should be the immediate target

Smita Purushottam

Smita Purushottam started Science, Indigenous Technology & Advanced Research Accelerator (SITARA) to promote development of a high-tech, scientifically advanced nation after her retirement from the Indian Foreign Service. She has served in diverse capacities in India's missions in Berne, Caracas, Berlin, London, Beijing and Brussels and on the Soviet/ Russian, SAARC, Bhutan and other desks in MEA/ MOD. She has actively pursued her academic interests at Harvard, IDSA and other institutions and has been publishing on the need to learn lessons from the economic reforms and innovation ecosystems in different parts of the world.

In all your various responsibilities including at SITARA, IDSA and MEA, the common threads that bind all are geopolitics and economics. What are your thoughts on whether a new world order is in the making basis the current events – both the geopolitics of it as well as the economics around it?

The New World Order features China as this century's new Great Power. However, we are witnessing a resurrection of the *old* World Order, with the US once again focusing on containing Russia. The US has even signaled its willingness to step back from confrontation with China, undoing years of effective decoupling, which will only accelerate China's rise. The US' attempt to strangle Russia's economy and use the EU to contain Russia will spur China to further accelerate its techno-economic capabilities and immunize itself from similar sanctions. Hopes that China would join the US in politically containing Russia will be infructuous. It is hardly likely that China will help the US to contain Russia, knowing that it will be next in line. With China's GDP set to overtake the US by 2030, the US is set on a self-defeating foreign policy course. Trust in globalization, particularly that led by the West, will erode as countries have and will further look inwards to prevent supply shocks.

Interestingly, Russia seems to be preparing the ground for a return to some semblance of normalcy once a territorial settlement is reached, by keeping its doors open, promising not to nationalize foreign assets in retaliation for the freezing of Russian assets and indicating its willingness to honor bond payments. Needless to say a debilitated and revanchist Russia is not even in Western interest, given the existentialist alarm earlier expressed by the US over China.

India will have to also address the security implications of strengthened China-Russia bonds. Though the West has expressed frustration at India's neutral stand with respect to the current crisis, there will be attempts to co-opt India. The diplomatic outreach by individual Quad members is an early testimony to this. India must use every opportunity to increase its leverage with the contending powers / blocs and simultaneously explore all possible avenues to increase economic, technological and strategic autonomy. India must also explore how to immunize itself from the repercussions of - and even the use of - sanctions against it. India would hope for an early settlement between Russia and the West. An ideal solution would be if the West accepts Russian security requirements and Russia accepts a Ukraine with junior associate status with the EU, since the EU is not a geopolitical threat. The EU could offer an EFTA-minus status to Ukraine, as in any case the EU is not too keen to accelerate Ukraine's full membership.

SITARA has been working towards this for many years, having sensitized the government about the national security implications of external control of India's Information and Communications Technology (ICT) infrastructure; we have also emphasized building an advanced defence industry.

Your work, both presently at SITARA as well as in the past has had R&D and / or innovation at its core. What is your opinion on the current state of R&D efforts in India and what should be the few key interventions to drive India's capabilities in this decade?

We are concerned but hopeful that the impetus on R&D will further intensify in the Indian economy. Robert Solow, the Nobel prize winning economist calculated that nearly 90% of US output growth was due to technological progress. If India is to achieve the self reliance targets, R&D enhancement must be central to its growth strategy.

One great indigenous model is the Government's funding of and R&D support to Bharat Biotech and SII for COVID vaccine production. This must be applied to all strategic high-tech sectors.

The withdrawal of tax incentives for R&D is a retrograde step and hence better targeted tax incentives must be restored immediately. Needless to say, India's R&D expenditure / GDP ratio should be increased from the current 0.65% to at least 2% by 2025.

You have suggested that targeted schemes like PLI and so on do not have the desired impact in India, as they do in China or the US. Having studied the Chinese economic reforms first-hand, what according to you would be the key 3-5 takeaways for India to be able to implement all policies and schemes efficiently?

The critical issue is that since we do not emphasize much on IP creation and retention in India, our high-tech companies are relocating abroad. Considering that India-born engineers fuel America's high-tech drive and comprise the bulk of the engineering workforce in the high-tech, high-value, strategic semiconductor design sector, we are losing billions of dollars annually by not retaining this unique talent.

India needs an incentive scheme for design-led manufacturing involving Indian IP ownership - comparable in magnitude to the PLI, which largely encourages shifting of low value-added assembly operations to India. PLI schemes must prioritize domestic companies which make significant R&D investments. For example, when it comes to semiconductors, taking cues from Japan and China, GOI should partner with domestic companies entering the assembly, test and packaging (ATP) segment, lodging India firmly in the semiconductor manufacturing supply chain. At the same time, India must expedite investment by *proven* foreign firms in advanced semiconductor foundries in India. This, along with a PLI for R&D intensive domestic companies, would kickstart a high-tech ecosystem, encourage entrepreneurs to stay permanently in India, stem the brain drain and shore up national security.

China coordinated its trade, FDI, domestic procurement and R&D funding policies to create a world-class ICT sector, enabling its industry to catch up *before* opening up. In India, full-scale procurement from - and R&D support to - domestic firms should be encouraged. For example, total government procurement amounts to around US$ 500bn annually - most of which has been imported over several decades due to distortions in procurement systems, which SITARA has vigorously tackled. If this can be implemented, it will take India's economic trajectory to $10tn in no time.

As a follow up to the previous question and referencing your 2001 essay on "Can India overtake China" as part of your fellowship at Harvard, what are the important roadblocks that still persist in the growth journey and what can be done to improve further?

Following my research at Harvard, I had inter-alia advocated in 2001 itself that India should give priority to manufacturing. However, few roadblocks have prevented that from happening. We are driving away talent at a frightening rate and India is losing out on IP creation to the tune of billions of dollars annually.

iSPIRT, SITARA's sister association, is working on a Stay in India initiative, which must be fully implemented. SITARA advocates a "Stay Indian" policy, in that high-tech companies must stay Indian. We have proposed a strategic VC fund, along the lines of In-Q-Tel (a strategic VC fund in the US pioneered by the CIA), which should fund high-tech companies on the condition they stay Indian. The idea is to create an ecosystem that encourages indigenous innovation and IP creation while ensuring its retention in India.

Indian defence sector and its associated policies and procedures have evolved significantly in the last decade or so. From your time as the JS in HQ IDS in the MoD to the current time, apart from R&D what do you think is a lacunae that still persists in varied shape and form, and should be addressed as soon as possible?

As mentioned before, our starting point is that India must have an advanced indigenous defence industry. MoD has recently announced increased domestic procurement and a 25% share for private sector in R&D funding, which SITARA has been advocating.

We also hope that DRDO can be converted into a leaner, meaner DARPA like organization. We have also recommended a fast track G2G mechanism to promote defence platform exports.

Additionally, we recommend that ICTs be declared strategic & critical infrastructure vital to national security, as it is the foundation for information and intelligentised warfare. Intelligence gathering on locations, equipment and forces and insertion of backdoors and malware - are facilitated by the non-induction of domestic equipment. We must indigenize our military ICT infrastructure on a war footing.

Finally, the entire drive for Atmanirbharta should be overseen in the PMO. Only a whole of nation / government approach can succeed in making India a country which is technologically self reliant to a large extent.

About Primus Partners

Primus Partners has been set up to partner with clients in 'navigating' India, by experts with decades of experience in doing so for large global firms. Set up on the principle of 'Idea Realization', it brings to bear 'experience in action'. 'Idea Realization'— a unique approach to examine futuristic ideas required for the growth of an organization or a sector or geography, from the perspective of assured on ground implementability.

Our core strength comes from our founding partners, who are goal-oriented, with extensive hands-on experience and subject-matter expertise, which is well recognized in the industry. Our core founders form a diverse cohort of leaders from both genders with experience across industries (Public Sector, Healthcare, Transport, Education, etc), and with varied specialization (engineers, lawyers, tax professionals, management, etc).

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Contact Details

Amit Dugar

amit@primuspartners.in

Bengaluru
91 Springboard Business Hub 175 & 176,
Bannerghatta Main Rd,
Dollars Colony,
Bengaluru, Karnataka
560076

Chandigarh
2nd Floor, Netsmartz,
Rajiv Gandhi Chandigarh
Technology Park,
Chandigarh – 160019

Delhi
Rear Block, Upper Ground Floor,
ALPS Building,
56 Janpath,
New Delhi – 110001

Mumbai
601, 6th floor,
Raheja Centre,
Nariman point.
Mumbai – 400021

Primus Partners India   @partners_primus