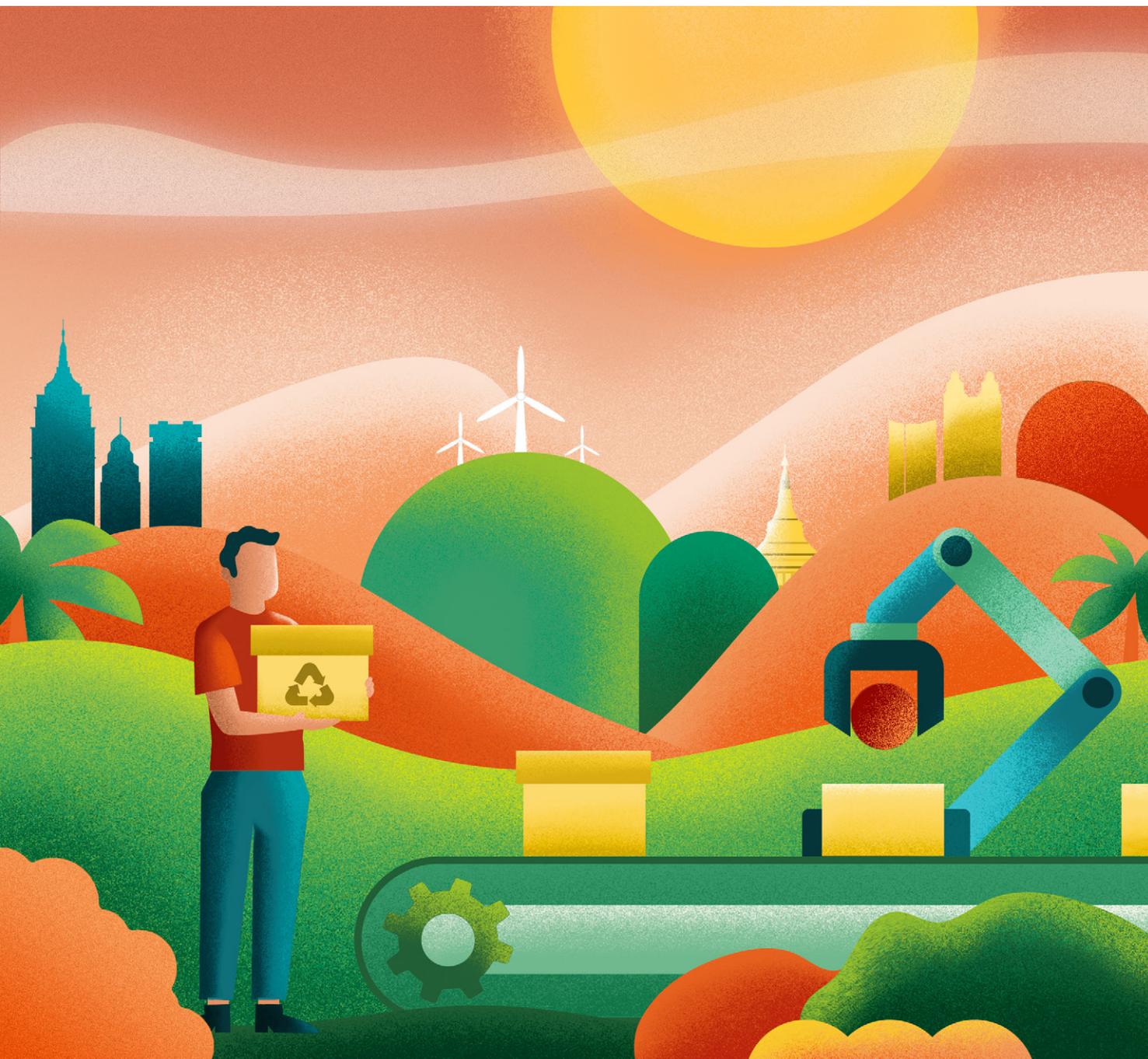


India

Financing Low Carbon Transition in India's MSME Sector



About this report

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About the Project

The SNAPFI (Strengthening National Climate Policy Implementation: Comparative Empirical Learning & Creating Linkages to Climate Finance) project explores how international climate finance can support the implementation of NDCs in emerging economies and EU countries through comparative analyses and by providing a better understanding of the interface between finance and policy implementation. It is coordinated by DIW Berlin, the German Institute for Economic Research.

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Abbreviations

| | |
|--------|---|
| ADB | Asian Development Bank |
| ARDC | Agricultural Refinance and Development Corporation |
| BAU | Business as usual |
| BEE | Bureau of Energy Efficiency |
| CCFU | Climate Change Finance Unit |
| CCFU | Climate Change Finance Unit |
| CDM | Clean Development Mechanism |
| CGTMSE | Credit Guarantee Scheme for Micro & Small Enterprises |
| COP | Conference of Parties |
| CSR | Corporate Social Responsibility |
| CTF | Clean Technology Fund |
| DI | Departments of Industries |
| DIC | District Industries Centres |
| ECA | Energy Conservation Act |
| EE | Energy efficiency |
| ESCO | Energy Service Companies |
| FCI | Fixed Capital Investment |
| GCF | Green Climate Fund |
| GDP | Gross Domestic Product |
| GEF | Global Environmental Facilities |
| GHG | Greenhouse Gas |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| JICA | Japan International Cooperation Agency |
| KFW | Kreditanstalt Für Wiederaufbau |
| KYC | Know Your Customer |

| | |
|--------|---|
| LCT | Low Carbon Transitions |
| MoEFCC | Ministry of Environment, forest and climate change |
| MoF | Ministry of Finance |
| MOMSME | Ministry of Micro, Small and Medium Enterprises |
| MoP | Ministry of Power |
| MSME | Micro, Small, and Medium Enterprises |
| MSMED | Micro, Small, and Medium Enterprises Development |
| MSP | Multi-Stakeholder Partnership |
| NABARD | National Bank for Agriculture and Rural Development |
| NAPCC | National Action Plan on Climate Change |
| NBFC | Non-Banking Financial Company |
| NBFC | Non-Banking Financial Company |
| NCDMA | National Clean Development Mechanism Authority |
| NDC | Nationally Determined Contributions |
| NGO | Non-Government Organization |
| NSIC | National small industries Corporation |
| RAMP | Raising and Accelerating MSME Performance |
| RE | Renewable energy |
| REEEP | Renewable Energy and Energy Efficiency Partnerships |
| SBI | State Bank of India |
| SDG | Sustainable Development Goals |
| SIDBI | Small Industrial Development Bank of India |
| SVL | SBICAP Ventures Ltd. |
| UNIDO | United Nations Industrial Development Organization |
| ZED | Zero Defect Zero Effect |

Abstract

India's MSME sector is a significant contributor to the economy. At the same time, the sector is a notably GHG emission intensive due to high use of fuels and informal nature which is difficult to regulate. MSMEs consumes about 25% of the total energy consumed by the industrial sector in India and out of the total energy consumed in MSME, 15% is electricity consumption and 85% is thermal energy consumption. As a significant contributor to the economy and emissions, India's MSMEs needs to transition into a low-carbon emitting sector in order to support achieving the country's NDCs and other global climate commitment. This study uses qualitative research methods to explore the status of financial assistance towards MSMEs low carbon transition (LCT). This includes the existing institutional arrangements, cooperation mechanisms, and policy landscape for MSME LCT. Through this review of the existing structure, the study identifies major barriers faced by the sector to access finance for MSME. The study uses case studies of Gujarat and Maharashtra to have a more micro level understanding of the policies and instruments available to MSMEs at the state level. Additionally, the study illustrates state and centre policy linkages by applying the theory of convergence and divergence as a policy analysis tool and analyse its implications and future scope. The study concludes with recommendations sourced from literature and stakeholder consultations to further strengthen the existing structure for aiding the MSME sector's LCT.

Executive Summary

The MSME sector is GHG intensive due to the high use of fossil-based fuels in the sector and its unorganized nature. The projected energy consumption of the sector by 2030 is expected to be equivalent to above 72 million metric tonnes of CO₂. In addition to being notable contributors to emissions leading to aggravating the effects of climate change, MSMEs are also disproportionately vulnerable to risks posed by climate impacts.

The unorganized and informal nature of the sector also lends itself to various challenges for MSME stakeholders to transition to energy-efficient technologies and non-fossil fuel-based energy sources. Lack of technical capacity, unawareness of existing formal financing instruments and processes, and misconceptions about low-carbon pathways are significant barriers that would have to be addressed in order to bridge demand gaps toward transitioning to an energy-efficient system. Additionally, only 16 percent of MSMEs in India are financed through formal banking systems and the credit gap for MSMEs in India is estimated to be about USD 240 billion (about INR 16.66 trillion) in 2018. An already existing finance gap lends itself to hindering the sector's transition.

Status of financing LCT: Institutional and regulatory mechanism

Achieving India's ambitious enhanced NDCs will require all industries, including MSMEs, to transform into a low-carbon emitting energy system by adopting new technologies which are significantly more energy efficient and sourced from non-fossil fuel-based alternatives.

This will only be possible through the support of strong institutions, efficient financing mechanisms, and robust policy interventions. On that account, the study aims to identify climate finance linkages with low carbon transition pathways for the MSMEs in India. Furthermore, the study aims to examine the implication of policy instruments and interventions to drive MSMEs in India towards low carbon transitions.

The report identifies the various key actors involved in the financing system for MSMEs in India from the lens of LCT. Transforming the sector will require financing institutions to steer the interest of MSME stakeholders towards transitioning to a low-carbon emitting sector by incentivizing this change and providing the adequate finances required to transform their processes. The roles and responsibilities of each of these institutions focus on financially supporting MSMEs either directly or indirectly through instruments such as schemes, policies, international aid, etc.

These institutional arrangements around climate finance in India are the key actors in developing and executing all interventions following national policy responses to climate change in the MSME sector. The climate finance landscape in India is distinctly fragmented with the central authorities, state-level actors, and international funds, private and public bodies all playing significant roles in channelling financial assistance to MSMEs. The study illustrates the role and functions of major institutional structures contributing to the flow of climate finance to the MSMEs.

These institutions are driven by the existing regulatory framework in India. However, existing legal provisions such as the MSME Development Act and the Energy Conservation Act did not feature specific directions for transitioning the MSME sector towards becoming a low-carbon emitting sector. In recent years, efforts to financially assist and encourage the sector's low carbon transition at the national level can be observed through schemes being carried out by either the Government of India, financial institutions or multilateral collaborations. The RAMP scheme, MSME Sustainable ZED certification scheme, MSE Cluster Development Programme, Credit Guarantee Fund Scheme for MSE and the BEE-SME scheme 'National Programme on Energy Efficiency and Technology Up gradation of SMEs' is some of the centrally launched and funded schemes and programmes by the Ministry of MSME which is contributing to LCT efforts in the sector.

These institutions can further come together to develop interventions with a multi-stakeholder partnership approach. MSPs have the potential to leverage additional finance for the energy transition of MSME clusters by bringing together various stakeholders. The inherent characteristics of MSPs will remove some of the barriers to mobilizing finance to address the demand gap, market access, capacity building, etc. The BEE-UNIDO-GEF Programme, GEF-WB-BEE Scheme and JICA-SIDBI Initiative are examples of MSPs supporting the mobilization of finance for LCT in India's MSME clusters.

Centre-state linkage case studies on Gujarat and Maharashtra

Center and State linkages are critical for impactful interventions and effective policy to take effect. MSMEs are not just governed by central policies but also state mechanisms that dictate the functioning of their processes. The influence of state-level actors is critical for the operations and the direction the sector is headed towards in a particular region. To investigate, this study deep-dives into Gujarat and Maharashtra to understand the influence of state-level policies in financing for their MSME sector. While several schemes aimed at elements of LCT are available in the state in the 2020 Gujarat Industrial Policy and the Gujarat Solar Power Policy, Maharashtra's Industrial Policy does not significantly focus on LCT elements.

Aside from the state policies that influence the industrial processes and functioning of MSMEs in Gujarat and Maharashtra, many nationally implemented schemes and programmes apply to the sector which influences its operations in convergence or divergence with the state policies. This study analyses the state initiatives with respect to some of these nationally implemented programmes and schemes that also apply to and actively govern MSMEs in the two states and can contribute to the lowering of emissions within the sector in its pathway to LCTs.

6 Schemes and programmes operating at a national level have been taken as the focal point in this analysis. Keeping their major focus areas as the crux of the rationale, three broad parameters were identified, i.e., technological advancement, capacity building, and credit and market access. The focus areas of the policies were further broken down to determine sub-parameters, based on which linkages with state policies would be analysed.

Policy interventions over the last few years have witnessed Gujarat's government align themselves with supporting the aim of meeting India's NDCs and moving towards low-carbon emitting pathways across its sectors. Overall, Gujarat partially aligns itself with the central agenda and mirrors the path the country is on towards transitioning towards a low-carbon pathway. The major focus of the Industrial Policy lies in the adoption of advanced energy-efficient technologies. The state also partially aligns with the centre's direction toward building capacity, disseminating information, and building awareness about LCT within the sector. Linkages with respect to enabling market access towards LCT technologies are comparatively limited. The transition of the sector is already underway with the adoption of these schemes. Scaling up these interventions, adopting more holistic financial mechanisms, generating awareness and building capacity in the sector towards LCT would significantly fast-track the process.

The mapping exercise found that more than 75 percent of the sub-parameters identified do not align with the state industrial policy of Maharashtra. Additionally, the state policy does not have major provisions of financial instruments to promote the adoption of alternative clean technologies across the MSME clusters except for promoting the use of biofuels. Capacity-building, which is a critical element on the road to LCTs and one of the key focus areas of the nationally implemented policies and schemes, is lacking in the state industrial policy of Maharashtra. Due to the unorganized nature of clusters, there lacks a formal awareness and information dissemination framework to convey existing financial incentives and instruments for energy efficiency at the grassroots level, and hence, does not lead to significant penetration among beneficiaries. There is evidence across the state that clusters are unaware of existing provisions and lack the capacity to apply for the schemes. This eventually adds to the lack of demand in the sector to transition to low carbon emitting systems and the existing financial incentives remain underutilized.

Major barriers of limited provisions for awareness generation and capacity building, lack of a formal financing structure, and extensive procedural requirements have been found in both states.

Barriers to financing LCT in MSMEs

Overall, major financing challenges remain in India's MSME sector.

- The demand for green finance in MSMEs is relatively niche and aggravated by a critical lack of awareness of existing financial mechanisms leading to hesitation among the stakeholders about transitioning.
- Limited handholding in terms of active technical assistance in order to adopt new technologies.
- The available financial provisions are not adequately supplemented by finance for R&D, demonstration, and standards.
- There is an acute data scarcity, particularly with respect to emissions data with no mandate or cap in place for emissions in MSMEs. The unorganized nature, skepticism about green alternatives, and the low level of awareness and capacity in MSMEs make it a difficult affair to implement regulatory and reporting frameworks and implement compliance-based targets.
- A still-evolving capital market and upfront high capital costs for green products have lent

themselves to deprioritizing LCT within the supply chain and leading to an acute lack of private involvement and investment at the MSMEs level causing a notable supply gap.

- The ecosystem of institutional finance is not adequately aligned with the needs of the MSME. There is a need to better define the financial allocation from the institutions including the amount of finance leveraged and modalities of co-financing.
- A shortage of opportunities in terms of investments towards Low Carbon Transition Pathways which has resulted from stressed balance sheets in the aftermath of COVID-19, has led to muted demand for finance for innovation, a lack of 'first-mover-advantage' for firms that undertake LCT measures, and capacity/resource constraints within financial institutions.
- The provisions that have been made to make finance available for the MSMEs to improve energy efficiency and promote the use of renewable energy do not take the complexities of being part of a larger supply chain.
- A more comprehensive assessment of financial needs has to be considered keeping in mind the transaction cost of technical assistance in addition to the cost of technology adoption.

Recommendations for mobilizing finance for LCT

To address the identified challenges for leveraging finance for LCT in the MSME sector, the report makes the following recommendations based on a review of existing literature and stakeholder consultations:

- **Promoting an incentive-based model** - The existing incentive-based financing mechanism needs to be scaled up in order to meet the requirements of the MSME sector. Funding through these mechanisms would also need to be supplemented with additional international sources of climate finance.
- **Financial support from large companies** - The larger companies in the hard-to-abate and manufacturing sectors can play a significant role to encourage MSMEs to adopt low-carbon emitting pathways in order to financially encourage them to adopt greener products and processes in their supply chain by requiring large companies to report on source materials and including scope III emissions in their disclosures.
- **Innovative financing models** - Addressing these various barriers to MSMEs in accessing climate finance will require innovative financing models such as community-based financing mechanisms and blended finance tools.
- **Intensify R&D, demonstrations, and pilot projects for new technologies** - Intensifying the number of project demonstrations and pilot projects for newer technologies would address this gap by exposing enterprises to options within their sub-sectors. Additionally, a dedicated fund of adequate size to support R&D for adoption and demonstration through pilot projects can go a long way, not only in pushing the sector to LCTs but also build a credible centralized database for customized designing of incentive structures.
- **Scaling up capacity building and awareness** - Capacity building and awareness activities need to be further intensified at both the central and state levels in order to address the lack of awareness regarding new technological solutions, industry standards, best practices, and how to access commercial finance opportunities.

- **Adoption of an account aggregator framework** - An account aggregator framework could be helpful in assisting the sector by enhancing access to debt financing, eliminating fraud, and reducing non-performing assets.
- **Adopting a revolving finance mechanism** - Revolving finance mechanism can help in reaching out to more MSMEs by supporting in addressing the technological and financial risks faced by the sector.
- **Forming a digital ecosystem** - Digitalization and the development of a reliable database would also encourage the framing of monitoring & reporting frameworks that could further be used to encourage MSMEs to report on efforts related to LCT adopted from existing sustainability reporting tools.
- **Mobilizing international climate finance** - International climate finance sources will need to be mobilized in order to meet the additional financial needs of adopting cleaner and energy-efficient technologies. As a developing country, India will need the support of developed nations to provide financial resources to assist developing country Parties in implementing the objectives of the UNFCCC.

Chapter one

Introduction

Introduction

The Micro, Small, and Medium Enterprises (MSME) sector contributes significantly to the economy, employment, and socio-economic development in India (MoMSME 2020). According to the 2015–2016 year of the National Sample Survey (NSS), there were 63.4 million unincorporated non-agriculture MSMEs. Providing employment to more than 110 million people, the MSME sector is currently the second largest contributor to employment in India. MSME sector contributes 28% of Gross Domestic Product (GDP) and 40% of exports (IIPA 2021). Union budget allocation for MSMEs in FY22 more than doubled to INR 157 billion (USD 2.14 billion) approximately as compared to INR 75.72 billion (USD 1.03 billion) in FY21 (IBEF 2022). According to the classification in the Micro, Small & Medium Enterprises Development (MSMED) Act, 2006, MSMEs in India are classified into manufacturing enterprises and service enterprises. Based on the scale of investment and annual turnover, both these types of MSMEs are further categorized into micro, small or medium enterprises. Annexure 1 depicts the various types of MSME categories. Key MSME clusters in India are based in Maharashtra, Andhra Pradesh, Gujarat, Tamil Nadu, West Bengal, Uttar Pradesh, and Kerala.

There is a two-way relationship between climate change and MSMEs. On one hand, MSMEs contribute to climate change, and on the other, they are disproportionately vulnerable to risks posed by climate impacts. According to the 2021 Biennial Update Report (BUR) of India, the MSME sector in India is still widely using outdated technologies and processes, resulting in higher energy intensity (GOI 2021: 219). The concept of low carbon transition (LCT) in the context of India can be derived from India's National Action Plan on Climate Change (NAPCC) which highlights that climate change mitigation activities such as renewables and energy efficiency can lead to energy security, reduced local pollution, and increased access to energy through distributed and decentralized forms of energy systems (GOI 2008). This study will consider LCT as demand side clean energy interventions such as renewable energy (RE) deployment and energy efficiency in MSMEs.

A growing body of literature finds that MSMEs are disproportionately affected by climate change. MSMEs, which are not covered under risk management instruments and insurance, are exposed to risks and are vulnerable to damage to physical structure due to floods and extreme precipitation events (Schaer and Pantakar 2018; Smith 2018). A study uses climate change sensitivity assessment to find that climate change intensifies existing challenges for MSMEs in India such as infrastructural and resource problems (Adelphi 2013).

MSME sector is GHG intensive due to the high use of fossil-based fuels in the sector. Given the informality, the exact emissions number is difficult to calculate, and estimates vary. According to one study, the MSME sector consumes about 25% of the total energy consumed by the industrial sector in India, and out of the total energy consumed in MSME, 15% is electricity consumption and 85% is thermal energy consumption (FMC and GIZ 2018). According to the report, the projected energy consumption shows a steep increase (by more than 100%) from CO₂ equivalent of 30 million tonnes in 2016–17 to 72.17 million tonnes in 2029–30 (FMC and GIZ 2018). According to another study, the sector consumed around 13% (81 million tonnes, or Mt) of the total coal/lignite, 7% (8.5 Mt) of petroleum products, and 8% (3.3 billion Cubic Metres, or BCM) of the natural gas supplied in India, in 2015–16 (Ananthakumar and Roshna 2018). The sector contributed 110 MtCO₂e (million tonnes of CO₂ equivalent) in 2015–16, owing to fossil fuel usage (Ananthakumar and Roshna 2018).

The Energy Conservation Act of 2001 provides the mandate for energy conservation and efficiency in India. The Bureau of Energy Efficiency has recognized that SMEs such as foundries, brass, textiles, refractories, brick, ceramics, glass and rice mills have large potential for energy savings for which cluster-based policy interventions are followed (BEE 2019). The major energy intensive MSME subsectors include food processing, textile, pulp and paper, chemicals, glass and ceramics, brick kilns, foundry, sponge iron, steel re-rolling, forging, pharmaceuticals, rubber and plastic, leather, and cement. High potential technologies include installation of automatic power factor control; energy efficient lighting; variable-frequency drive motors and pumps; energy efficient pump and motors; energy efficient compressors; compressed air leakages; fan less cooling towers; energy efficient boilers; solar water heater; fibre-reinforced plastic blades; condensate and waste heat recovery; installation of solar photovoltaic systems; energy saving by modification in process machine; thermal insulation and retrofitting for optimal fuel usage (FMC and GIZ 2018; SAMEEKSHA 2022).

Considering the significance of MSMEs, there are several central schemes that aim at benefitting MSMEs in India (MOSME 2022a). These schemes include the following:

| Sr. No | Financing Instrument |
|--------|--|
| 1 | Prime Minister's Employment Generation Programme (PMEGP) |
| 2 | Credit Guarantee Scheme for Micro & Small Enterprises (CGTMSE) |
| 3 | Micro and Small enterprises Cluster Development Programme (MSE-CDP) |
| 4 | Scheme of Fund for Regeneration of Traditional Industries (SFURTI) |
| 5 | Entrepreneurship and Skill Development Programmes (ESDP) |
| 6 | Assistance to Training Institutions (ATI) Scheme |
| 7 | Coir Vikas Yojana (Coir Development Scheme) |
| 8 | Procurement and Marketing Support (PMS) scheme |
| 9 | International Cooperation (IC) Scheme |
| 10 | National Scheduled Caste and Scheduled Tribe Hub |
| 11 | A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship (ASPIRE) |
| 12 | Khadi Gram Udyog Vikas Yojana (Khadi Rural Development Scheme) |
| 13 | Gramodyog Vikas Yojana (Rural-enterprises Development Scheme) |
| 14 | Scheme for Promotion of MSMEs in North-Eastern Region and Sikkim |
| 15 | Infrastructure Development & Capacity Building scheme |
| 16 | MSME Champions Scheme |
| 17 | Credit Guarantee Scheme for Subordinate Debt (CGSSD) for Stressed MSMEs |
| 18 | Self-Reliant India (SRI) Fund |

With the help of policies such as the Pradhan Mantri Mudra Yojana, purchase and price preference policy, export promotion and facilitation policies, and excise exemption and concession policies, the Indian government has sought to boost economic activities of MSMEs.

The MSMEs sector is confronted with multiple challenges such as access to markets and finance, which have been exacerbated due to the pandemic. As a response to the COVID-19 pandemic, Atmanirbhar Bharat (Self-reliant India) economic recovery package by the Ministry of Finance focused on MSMEs to mitigate economic hardships of MSMEs. Considering the vulnerability of the MSME sector, the government pumped liquidity to support banks and non-banking financial companies to push the flow of funds to the micro, small, and medium-sized enterprises (MSMEs) and to provide collateral free loans. The government has announced INR 2 billion subordinate debt for MSMEs and INR 5 billion equity infusion through MSME Funds of Funds.

MSMEs and Low Carbon Transitions in India

At the 26th Conference of Parties, 2021, and in the updated national determined contributions, India laid down enhanced commitments to reduce emissions intensity of its GDP by 45 percent by 2030, from 2005 level and achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030 (Cabinet 2022). India's Prime Minister announced that India would be a net-zero CO₂ emission country by 2070 and announced to add 500 GW of electricity capacity from non-fossil sources by 2030. All sectors of the economy, including MSMEs, will have to contribute toward the emission intensity reduction and clean energy targets. India's Nationally Determined Contribution (NDC) explicitly mentions the National Mission for Enhanced Energy Efficiency (NMEEE) which is one of the missions under the NAPCC (GOI 2015). It also mentions the role of demand side measures in meeting India's energy intensity and efficiency targets. India's NDC also mentions the Zero Effect, Zero Defect (ZED) and the Make in India campaign that were launched in 2015. The ZED initiative, which envisages to cover about one million medium and small enterprises, aims to rate medium and small industries on quality control and certification on parameters including energy efficiency, resource efficiency, pollution control, use of RE and waste management. According to India's Third BUR to the United Nations Framework Convention on Climate Change (UNFCCC), accelerating adoption of energy efficient technologies in the MSME sector in India is key to achieving India's NDC goals. The document explicitly recognizes that due to the pandemic, the MSME sector has been the most severely affected due to which progress on India's NDC in energy efficiency may potentially be impacted (GOI 2021: 122).

Low carbon transitions in India's MSME sector should be seen not only in terms of reducing emissions but also increasing access to clean energy. The MSME sector in India consumes about 30% of energy delivered to formal industrial units but only 48.2% of MSMEs use electricity as the primary source of energy and 38.6% do not rely on any formal source of power (Mallya and Ghosh 2020). This points to the complexity of the sector. MSME sector can reduce emissions through energy demand side and supply side measures. On demand side management, MSME's through energy conservation and energy efficiency measures can reduce energy intake and hence reduce the carbon footprint of their operations. On the energy supply side, one of the measures is that MSMEs can deploy solar rooftops and become a source of clean thus contributing to overall mitigation and net-zero efforts of India.

India's MSME sector is the second largest in the world only after China. Without a doubt, the MSME sector is a crucial stakeholder to meeting global climate commitments. At a time, when climate commitments become central to making any industry competitive in global markets, a focus on low carbon transitions in MSMEs is central. Moreover, MSMEs also form a part of the value chains of larger companies and should be incentivized for LCT.

Despite its significance, LCT in MSMEs have not received adequate attention (Kajol et al 2021; Rana 2022; Sood 2021). Barriers such as insufficient capacity of MSME units, non-availability of clean technologies, lack of local service providers and gaps in traditional finance delivery mechanisms (Gupta and Singh 2020; TERI 2012) inflict the sector. In the absence of a strategic roadmap to guide MSMEs to transition to a low-carbon economy, the focus on low carbon transitions in MSMEs is minimal. Presently, the focus areas for LCT in the MSME sector in India are through the two verticals of promoting energy efficiency and environmental management.

The nationally implemented project by the United Nations Industrial Development Organization (UNIDO) called 'Promoting Market Transformation for Energy Efficiency in Micro, Small & Medium Enterprises' aims to promote the implementation of energy efficiency in the MSME sector through combination of reduction of technical risks (standardization and localization of technology) and reduction of financing burden (through market aggregation and innovative, energy service-based funding model). The project is expected to result in direct annual energy savings of 956,184 GJ; with lifetime of investments being 10 years, this means a total 10-year reduction of 9,561,838 GJ. Under the project, the target of CO₂ emission reduction is 86,000 tonnes annually (MOSME 2022b: 118). The project is under the Global Environmental Facilities' (GEF) programmatic framework for energy efficiency in India and includes UNIDO as the implementing agency and Ministry of MSME (MoMSME) as the lead executing agency. The key executing partner for the project is Energy Efficiency Services Ltd (EESL). Small Industrial Development Bank of India (SIDBI) and BEE are the guiding agencies for the project.

India's flagship initiative, the ZED Scheme, aims at environmental management and cleaner production through clean energy measures, minimizing waste, and deploying cleaner production technologies. The ZED scheme, which is voluntary, sets parameters wherein MSMEs will be assessed and rated on defined enabler and outcome parameters on operational level indicators (including process design parameters for environmental management, product design for environment, and outcomes for environmental performance). According to the latest annual report of the Ministry of Micro, Small and Medium Enterprises, 23948 MSMEs registered under ZED certification, out of which only 503 MSMEs are ZED certified (MOSME 2022b: 109).

MSMEs and climate finance

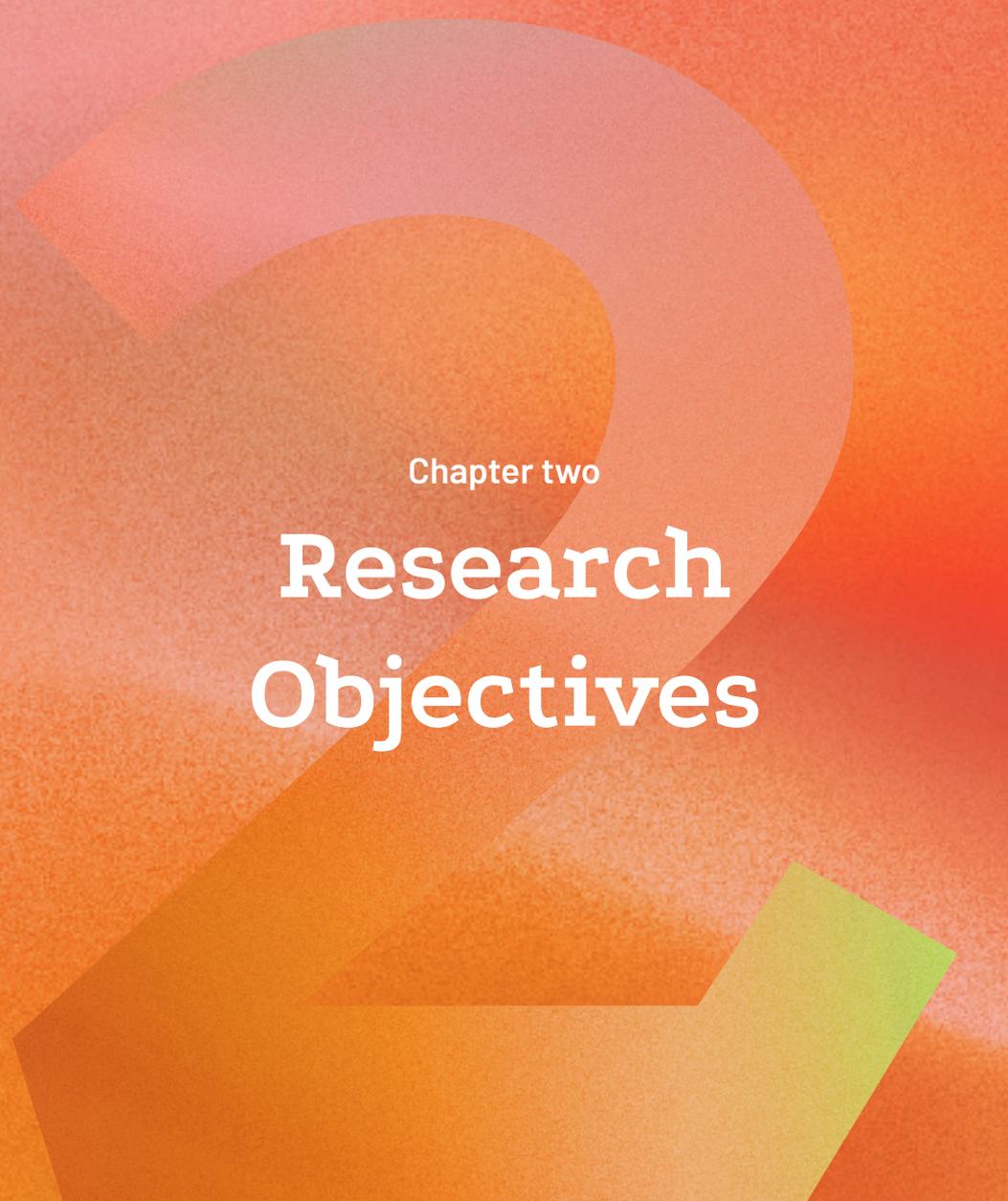
Access and delivery of climate finance for MSMEs is not just an imperative for low carbon transitions but is also key for the financial inclusion goals of MSMEs through better access to credit and markets. In other words, climate finance for MSMEs is a key plank for climate justice. Partial guarantee funds and risk management tools Considering the imperatives of inclusion and social justice, since the MSME sector is the second largest contributor to employment in India, climate finance for MSMEs is a key to climate justice.

At the 2009 COP15 at Copenhagen, developed countries collectively committed to jointly mobilizing 100 billion USD annually by 2020 to provide support to developing countries to mitigate and adapt to climate change. However, this goal has not been achieved. Climate finance is extremely crucial to ensure both mitigation and adaptation actions in MSMEs. Green Climate Fund (GCF) has a MSME Pilot Programme which has allocated about USD 200 million in finance to initiatives in Guatemala, Mexico, Mongolia, and Ghana for MSMEs at all stages of growth (GCF 2022). Despite having the second largest MSMEs which are also vulnerable to climate change, there is no focus of GCF presently on the MSME sector in India.

The RBI highlights that 93% of MSMEs have no access to finance, institutional or non-institutional (RBI 2018: 8). According to a study by the International Finance Corporation (IFC), only 16 percent of MSMEs in India are financed through formal banking systems and the credit gap for MSMEs in India estimated to be about USD 240 billion (about INR 16.66 trillion) in 2018 (IFC 2018). This number depicts the sheer challenge of MSMEs who still struggle to get traditional finance in India and for whom climate finance remains elusive. Climate finance in India is channelled through formal public and private structures that have stringent rules and regulations. Apart from banking institutions, finance, both national and international is channelled through processes such as union budgets, state budgets, clean development mechanism (CDM), National Adaptation Fund, and through channels of the GCF and GEF. When it comes to clean energy measures, energy service companies (ESCOs) also play a crucial role in financial service delivery.

International climate finance institutions such as the GCF require stakeholders to follow a structured process involving bureaucratic procedures, verification processes involving accredited entities for channelizing and delivery of climate finance to MSMEs. Limited technical and financial capability of MSMEs proves to be a hindrance as MSMEs are unable to mobilize upfront investment are not they able to undertake project reporting and audits. Due to smaller finance needs, MSMEs cannot directly avail climate finance from facilities such as GCF and hence diversifying delivery mechanisms become essential.

There is also a need to re-examine the role of financing institutions including non-banking financial company (NBFC) and micro-finance institutions that cater to the MSME sector. Presently, the key players when it comes to climate finance for MSMEs include SIDBI, National Bank for Agriculture and Rural Development (NABARD), and Indian Renewable Energy Development Agency (IREDA) Limited have been primarily focusing on direct financing or refinancing of loans to NBFCs and other financial institutions catering to MSMEs, which are quite insufficient considering the total credit requirement of MSMEs.



Chapter two

Research Objectives

2. Research Objectives

Literature on climate change response involving MSMEs examines adaptation and mitigation actions by MSMEs (Atela, et. al., 2018; Csaky, et. al., 2017; Cunha, et. al., 2020; Qamar et al 2022; Schaer and Kuruppu 2018; Schaer and Pantakar 2018; TERI-IGES, 2014). However, there are limited studies that examine LCT and MSMEs from the lens of climate finance. There are also limited country studies that examine sub-national policies in a federal context. This study aims to bridge these gaps. Using the lens of climate finance, this study aims to shed light on implications for policy and praxis to drive MSMEs in India towards low carbon transitions.

The key research questions for the study include:

- What is the status of financing LCT in India's MSME sector and what are the various elements that influence it?
- To what extent do state policies and mechanisms align with the centres aim and efforts towards financing LCT in the MSME sector and what does it imply?
- What are the major barriers in financing LCT in the sector and how can they be addressed?

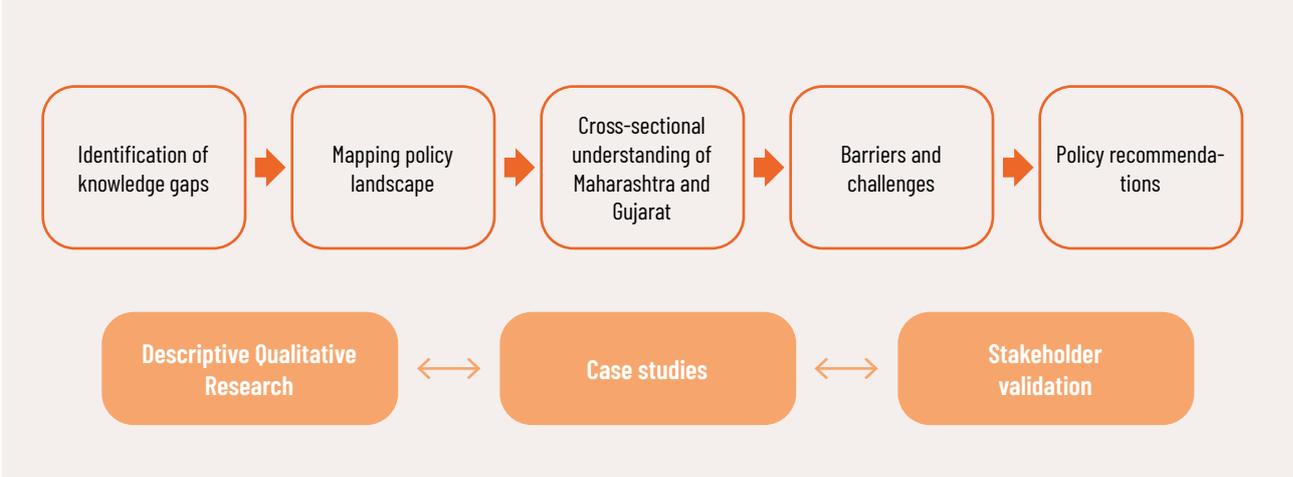
Chapter three

Methodology

3. Methodology

The study uses descriptive qualitative research and a case study approach. Since the study is exploratory in nature, qualitative research is considered more suitable to capture the nuances of the issue at hand. The data source for the study are primary documents from government sources and secondary literature. The study also draws from stakeholder consultations for the validation of the preliminary findings of the study. A list of stakeholders consulted for this study has been provided in Annexure 2. Here, the case study approach has been used as a tool to explore the status of finance for LCT in the two states of Gujarat and Maharashtra.

Figure 1 National Study Approach



Source: TERI study team

This report is divided into three parts. The first section illustrates the status of the MSME sector in India. This includes mapping the various institutions involved in the process of financing LCT for MSMEs, how they coordinate amongst themselves and the potential for MSPs, the policy landscape aiding this process and the barriers that arise for financing LCT in the sector. This will be followed by the two case studies that will explore the policies and financial instruments currently in place to support LCT in the states of Maharashtra and Gujarat. Using this, the successive section will explore the linkages between state and central policies and instruments supporting LCT in the MSME sector and to what extent they diverge or converge with each other. The final section will propose policy recommendations which will be then followed by the conclusion.

State Level Case Studies on Maharashtra and Gujarat

Rationale

MSMEs contribute considerably to the country’s economic and social growth by encouraging entrepreneurship, creating jobs, and serving as a support system for large enterprises. The government has placed a high priority on this sector in recent years since it is considered critical to reaching the government’s goal of a \$5 trillion economy by 2024 (Singh and Wasdani, 2016). The

national government has implemented a variety of measures to achieve this throughout time. According to the most recent data available, MSME units contribute 29 percent to the nation's GDP and 48 percent to exports. In the fiscal year 2015-16, the MSME industry employed roughly 11.10 crore people (IIPA 2021).



Center and State linkages are critical for impactful interventions and effective policy to take effect. MSMEs are not just governed by central policies but also state mechanisms that dictate the functioning of their processes. The influence of state-level actors is critical for the operations and the direction the sector is headed towards in a particular region. This study deep-dives into Gujarat and Maharashtra to understand the influence of state-level policies in financing for their MSME sector. The states were decided based on the following three rationales:

- **MSME distribution**

Maharashtra and Gujarat both are among the top 10 states with the highest share of MSMEs in the country, 4th and 8th respectively. Both states have a high density of clusters across various sub-sectors¹. The following table illustrates the distribution of MSMEs in the states and their percentage share in the country.

Table 1 Comparative distribution of MSMEs in Gujarat and Maharashtra

| Estimated number of enterprises (Number in lakh) | | | | | | |
|--|-------|-------|--------|--------------|-----------------------|-----------------|
| | Micro | Small | Medium | MSME (Total) | Share in national (%) | No. Of Clusters |
| Maharashtra | 47.60 | 0.17 | 0.00 | 47.78 | 8% | 58 |
| Gujarat | 32.67 | 0.50 | 0.00 | 33.16 | 5% | 41 |

Source: Ministry of MSME, 2021-2022

¹ MSME clusters are groups of organizations or enterprises located within an identifiable and mostly practicable, contagious area, producing similar products or services.

- **Emissions from MSME in Gujarat and Maharashtra**

India ranks as the second largest small business community globally after China with over 63 million small businesses in the country. As per a 2018 report, India's MSME sector generates around 110 million tonnes of CO₂ equivalent with an annual energy consumption equivalent to 50 million metric tonnes of oil used per year from 200 energy-intensive manufacturing clusters in the country (BEE, 2020) (Ananthakumar, 2018). The foremost challenge in the MSME sector is the absence of data to evaluate energy consumption and emissions and the sub-national level. As a predominantly unorganized sector, a significant number of MSMEs neither measure nor monitor their energy and fuel consumption.

- **Inclusion in the recently announced RAMP Scheme**

The Raising and Accelerating MSME Performance (RAMP) Scheme is the latest addition to the central policy landscape for supporting MSMEs and focuses on improving access to market and credit, strengthening institutions and governance at the Centre and State, improving Centre-State linkages and partnerships, addressing issues of delayed payments, and greening of MSMEs. The RAMP scheme will focus on the 5 major MSME states of Gujarat, Maharashtra, Tamil Nadu, Punjab, and Rajasthan. Given the inclusion of Gujarat and Maharashtra in this scheme for focused and targeted intervention and assistance, it demonstrates the significance of the two states in view of the national MSME sector. These factors cumulatively illustrate the significance of the two states in the country's MSME sector and, thus, become ideal states for understanding state-level policy interventions and influence through detailed case studies.

Methodology for Case Study

The case study analysis for these two states has been carried out from a policy lens. The policy instruments influencing the financial assistance for low carbon transitions in the MSME sector in the states have been analysed to understand the influence they have on efforts to transition to a low-carbon emitting and low-energy intensive sector at the state level. This study maps the various policies, schemes, and programs that, either directly or indirectly, lend to efforts for low carbon transitions in their respective MSME sectors. This also includes the various eligibility criteria for availing assistance and the nature of assistance provided to beneficiaries.

Chapter four

**Status of Financing
LCT for MSMEs in India:
An Overview**

4. Status of Financing LCT for MSMEs in India: An Overview

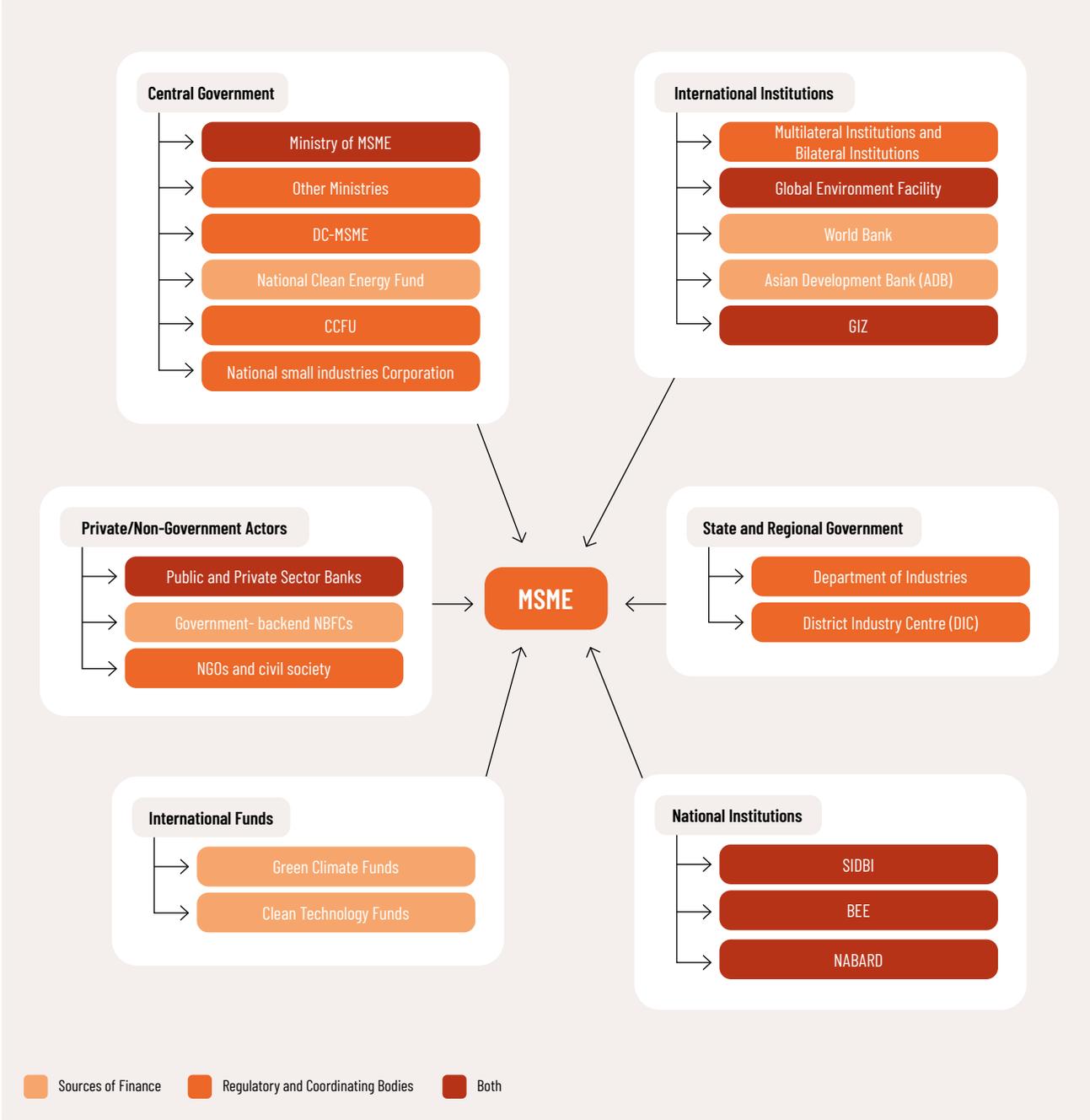
Existing Financial System: Institutional Arrangement

Institutions facilitate the movement of resources from net savers to net borrowers. Historically, financial institutions have been the primary source of long-term funding for the economy. To meet the diverse demands of the commercial sector, these institutions offer a variety of financial products and services. In addition, they aid new businesses, small and medium-sized businesses, and industries in underdeveloped areas. Hence, by stimulating widespread industrial development, they have aided in the reduction of regional differences.

The financing system for MSMEs in India is notably depended on the various institutions that source or channel finance. This finance for industries is divided into three parts, namely short-term, medium-term and long-term finance. These types of finance are sourced from either institutional sources or non-institutional sources. The institutional sources of finance are the formal organizations that provide support to these sectors. These institutional sources of finance can be broadly classified into bodies under the central government, state and regional government, national financial institutions, international institutions, private or non-government actors, and various international funds as illustrated in Figure 2. Additionally, MSMEs also seek financial support from non-institutional and informal sources such as peers, family members, money lenders, etc., in the form of informal loans (Bala et al., 2012). International organisations also support MSMEs to access finance through indirect source of financing². Figure 2 illustrates the various prominent institutional bodies that source or channelize finance from international, national, and state level actors particularly for LCT in India's MSME sector.

² Indirect sources of finance include third party lenders. For example, SIDBI provides finance to MSMEs through line of credit which also includes international source of finance.

Figure 2 Major actors for LCT in India’s MSME



Achieving India’s enhanced NDCs and other global climate commitments will require financing institutions to steer the interest of industrial sectors like MSMEs towards transitioning to a low carbon emitting sector by incentivizing this change and providing the adequate finances required to transform their processes. The roles and responsibilities of each of these institutions focus on financially supporting MSMEs either directly or indirectly through instruments such as schemes, policies, international aid, etc.³ The following section illustrates how these institutions coordinate with each other to address the MSME sector’s financing needs towards transitioning to cleaner and more energy-efficient technologies.

³ Further details on the specific roles of institutions mentioned in Figure 3 have been elaborated in Annexure 3.

Coordination Mechanism for Financial Flow

The institutional arrangements around climate finance in India are the key actors in developing and executing all interventions following national policy responses to climate change in the MSME sector. The climate finance landscape in India is distinctly fragmented with the central authorities, state level actors, international funds, private and public bodies all playing significant roles in channelling financial assistance to MSMEs. The following sections describe the role and functions of major institutional structures contributing to the flow of climate finance to the MSMEs.

National Bodies

At the national level, the MoMSME and the Ministry of Finance (MoF) are the primary institutions that dictate the flow of finance to the sector. Notified in 2006, the MSME Development Act is the umbrella policy that governs the MSME sector. The MoMSME holds the responsibility of designing policies, promoting and facilitating programmes, schemes, projects, etc., and monitoring the implementation with the aim of assisting MSMEs to scale up, access finance, build capacity, and transition to energy-efficient systems. The role of the Ministry and its various organizations is to assist the State governments in their efforts to encourage entrepreneurship, employment and livelihood opportunities and enhance the competitiveness of MSMEs in the changed economic scenario. The Ministry forms one of the key coordinating and regulatory bodies spearheading the growth of India's MSME sector. The Office of the Development Commissioner (DC) assists the Ministry in formulating, coordinating, implementing, and monitoring different policies and programs for the promotion and development of MSMEs in the country. In addition, the DC office provides a comprehensive range of common facilities, technology support services, marketing assistance, field testing stations, etc. through its network of development institutes, training centres, testing centres, etc. The DC's office also implements the policies and various programmes and schemes for providing infrastructure and support services to MSMEs. As the primary Ministry for MSMEs, the MoMSME along with the MoF coordinate with other Ministries to distribute finance through various tools and instruments such as schemes and projects to the different MSME sub-sectors.

The MoF performs the function of coordinating and regulating, as well as sourcing finance to distribute to MSMEs through budget allocations and various schemes, programmes and projects. The distribution of finance based on the needs of the MSME sector is determined by the MoF with the help of its Department of Economic Affairs (DEA), the Climate Change Finance Unit (CCFU) and the MoMSME. The CCFU was created within the DEA in the MoF, to serve as the nodal point on all climate change financing matters in the Finance Ministry. Despite the formulation of the CCFU, there is no formal coordination mechanism around climate finance in the country. As a result, there are multiple processes and various factors for financing that thrive within the country. MoF along with MoMSME funnel climate finance for MSMEs through these channels to the various other relevant ministries. Subsequently, as per the requirements of the various sub-sectors concerned, the ministries distribute the budgeted allocations to the states through these channels.

Other centrally governed financial institutions or organizations also play a critical role in finance disbursement. SIDBI acts as the Principal Financial Institution for the promotion, financing and development of the MSME sector as well as for co-ordination of functions of institutions engaged in similar activities. This institution aims to facilitate and strengthen credit flow to MSMEs and address

both financial and developmental gaps in the MSME eco-system. Though SIDBI partially functions as a source of finance, its primary role is to facilitate and coordinate the distribution of finance from national and international source institutions to the MSMEs through various schemes, projects and programs. SIDBI functions as the primary implementation body for several international funds coming in from donor agencies such as Asian Development Bank (ADB), World Bank, Japan International Cooperation Agency (JICA), Kreditanstalt Für Wiederaufbau (KfW), amongst others, specifically for assisting MSMEs in transforming to an energy efficient sector (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2018). SIDBI also supports the Ministries concerned in channelling climate finance for low carbon transition in the sector.

Another prominent central institution contributing to coordinating and regulating finance towards low carbon transition in the MSME sector is the BEE, a statutory body established by the Energy Conservation Act of 2001 functioning under the Ministry of Power (MoP). Recognizing the Government of India's priority of improving industrial energy efficiency for maintaining competitiveness, reducing aggregate energy demand, and cutting GHG emissions, the BEE has been entrusted to channel, coordinate and regulate climate finance to assist MSMEs towards energy efficient upgradation. Similar to SIDBI, the BEE also facilitates the channelization of international funds through donor agencies. Major international schemes being facilitated and implemented by BEE include the World Bank-GEF funded 'Partial Risk Sharing Facility in Energy Efficiency' project and the 'Financing Energy Efficiency at SMEs' project. BEE also functions as an implementation body for the Government of India and promotes the adoption of energy-efficient technology and capacity building for low carbon transition. The 'National Programme on Energy Efficiency and Technology Up gradation of SMEs' is one of the key national programmes steering and promoting the sector towards low carbon transition by providing various kinds of financial assistance.

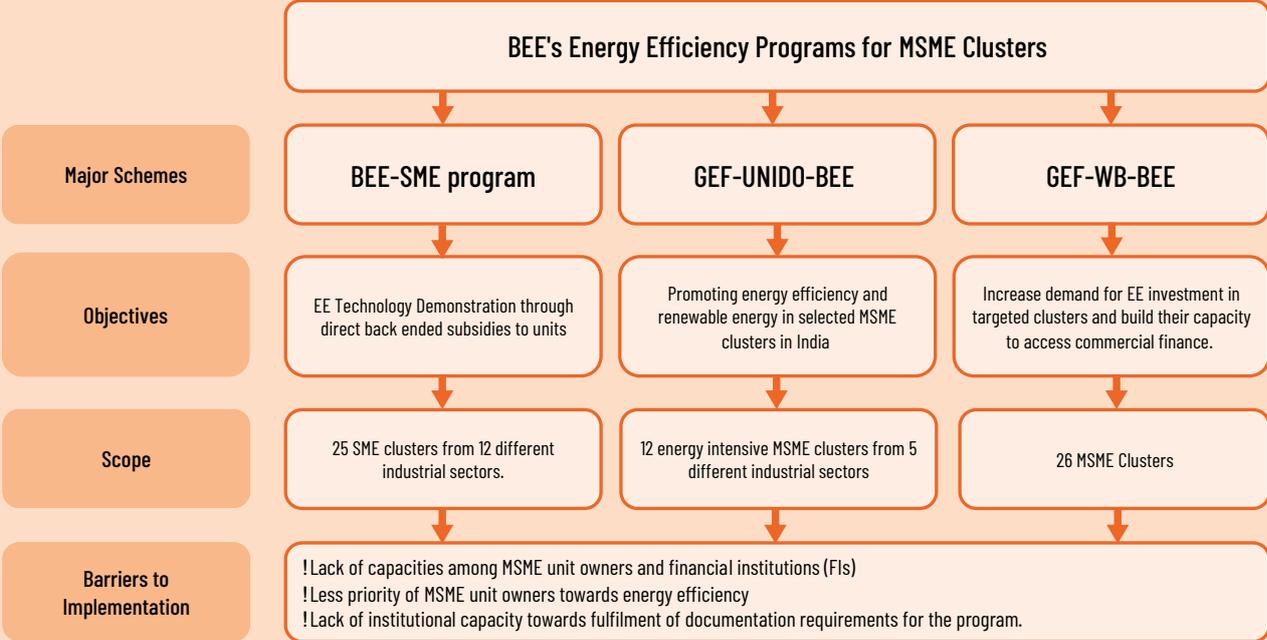
The National Small Industries Corporation (NSIC) is the government organization that works under the MoMSME and works to promote and aid the growth of MSMEs in the country by providing integrated support services for marketing, finance, technological support and other services. They form the nodal agency and the primary link between the Ministry and the MSMEs. Schemes under NSIC specifically focus to support MSMEs in their marketing efforts, both domestic and foreign markets.

Public sector banks such as State Bank of India, Union Bank of India, and Canara Bank, also provide financial assistance to MSMEs in the form of soft loans, collateral-free interests, and co-financing. Government-backed Non-Banking Financial Companies (NBFCs) also function as channels for the distribution of Central funds towards low carbon transition in the sector. Companies like Indian Renewable Energy Development Agency (IREDA) and Power Finance Corporation (PFC) promote debt financing of RE projects in India. These funds are then distributed to the states.

Box 1 Bureau of Energy Efficiency (BEE)

BEE’s main objective is to improve energy efficiency of SME sector in India through accelerating adoption of energy efficient technologies, knowledge sharing, capacity building and development of financial of innovative financial mechanisms. Some of the major schemes and programmes are mentioned here. The following are some of the key achievements by these initiatives:

Figure 3 BEE’s Energy Efficiency Programs for MSMEs



• BEE-SME Program

The BEE-SME program has successfully implemented energy-efficient technologies as demo projects in 21 units of 4 selected clusters for further replication of the technologies across the sector. These initiatives have resulted in savings of more than 1100 TOE per year with further replication potential of 74,824 TOE in 4 clusters (Bureau of Energy Efficiency, 2020). Additionally, the implementation of these projects has resulted in a cost-saving of about INR 1.5 crore per annum and GHG reductions of about 2426 tCO₂ per annum (SAMEEKSHA, 2019). 375 technologies specific bankable DPRs were prepared to enlist energy efficiency technologies. These were prepared through a technology gap assessment study conducted in 35 energy-intensive SME clusters belonging to 12 SME sectors. More than 60 capacity-building and knowledge dissemination activities were organized in SME clusters for the dissemination of available energy-efficient technologies in SME sectors.

- GEF-UNIDO-BEE

The programme has implemented over 400 energy-saving projects and RE options toward facilitating cleaner and more efficient energy use in MSME units. More than 50 energy-efficient technologies have been piloted under this programme and 17 demo projects were implemented in 7 clusters with the financial assistance of INR 87.9 Lakh. Till 2017, the programme had achieved annual energy savings of more than 8500 TOE with annual monetary savings of INR 3802 Lakhs. Multiple capacity-building and awareness-generating activities were carried out including 84 workshops and hands-on training for 187 stakeholders. 43845 tonnes of carbon emissions per year were avoided due to the combined efforts of these initiatives (SAMEEKSHA, 2019).

- GEF- WB-BEE

The implementation-focused programme spans 26 clusters in India. Under this programme, technical assistance was provided to 750 energy professionals. More than 1100 training programmes were conducted for Bankers/FI on EE Projects and Appraisals. The programme achieved annual energy savings of 25000 TOE with an average ROI of 18 months. The programme also provided support for over 50 MSME units from 20 clusters for the implementation of ISO – 50001.

State level actors

The primary responsibility for the promotion and development of MSMEs is of the State Governments. The major role of the Ministry of MSME and its organizations is to assist the States to encourage entrepreneurship, employment, and livelihood opportunities and enhance the competitiveness of MSMEs in the changed economic scenario. States themselves allocate budgets to provide financial assistance to MSMEs for adopting energy-efficient systems. For example, Gujarat's 2020 Industrial Policy contains several schemes directly focusing on the sector's low carbon transition. Various state departments concerned with the MSME sub-sectors coordinate and facilitate the flow of finance from the Centre to the industries.

Climate finance for transitioning the MSME sector also flows in through various central institutions and gets distributed among the state through state-level actors such as the State level Departments of Industries (DI) and District Industries Centers (DICs). These state-level institutions function as coordinators to facilitate the flow of climate finance and steer into the hands of MSMEs through development-based schemes that target industrial clusters.

International Institutions

Despite domestic sources of finance, there remains a significant gap in meeting the sector's monetary requirements to transform into energy-efficient systems which require foreign contributions and interventions. Aside from the various domestic sources and mechanisms in India, several climate-related projects or activities in India receive money from international funds, or multilateral and bilateral agencies. Globally, these mechanisms and institutions coordinate and source climate finance relevant to India's MSME sector's low carbon transition.

At the international level, the GEF is a financing mechanism with a unique partnership including 18 of the world's leading United Nations agencies, multilateral development banks, national entities, and international NGOs – working with 183 countries to address the world's most challenging environmental issues. GEF is the primary international coordinator of funds working towards the objectives of 5 of the major international environmental conventions (United for life & livelihoods, 2021). India is both a donor and a recipient of the GEF funding. As an environmentally focused financial organization that funds grants for climate-change-related projects, financial assistance from GEF is allocated both at the central and regional levels. MoF appoints a national political focal point and the Ministry of Environment, Forest and Climate Change (MoEFCC) as the operational focal point. Activities under GEF are authorized by both the MoF and MoEFCC, under which the implementation bodies assigned are SIDBI and BEE, respectively. Under this partnership, SIDBI along with BEE is executing a GEF-funded WB 'Enabling Emission Reductions in the MSME Sector in India' project, viz. Financing Energy Efficiency at MSMEs in five MSME clusters.

Global funds such as the GCF, Adaptation fund (AF) and the Clean Technology fund (CTF) allocate finance directed towards MSME transformation and operate through various national institutions to carry out strategic interventions. Similarly, multilateral organizations such as UN organizations, Asian Development Bank (ADB) and the World Bank and bilateral institutions such as GIZ and JICA all function alongside nationally appointed implementation bodies. The United Nations Industrial Development Organization (UNIDO) are the SIDBI functions as the nationally accredited implementation body for interventions and financial allocations by the GCF in India, providing finance for MSMEs at all stages of growth. Through SIDBI, the GCF channelizes funds for fostering green investments by itself, through its partners as also renders project management support to other institutions desirous of complementing the climate change agenda. SIDBI is also the primary implementation body for various multilateral and bilateral organizations such as the World Bank, KfW and JICA and facilitates the channelization of climate finance to India's MSME sector through coordinating and regulating various schemes and projects.

The international Adaptation Fund operates in India through the (MoEFCC) and has been designated as the National Designated Authority (NDA). NABARD has been accredited as the National Implementing Entity (NIE) for the Adaptation Fund owing to it being one of the leading development finance institutions with an extensive organizational presence across the country. NABARD coordinates the national distribution of finance from the AF through the execution of projects and programmes.

Similarly, BEE is another key stakeholder that has partnerships with several international organizations such as the World Banks, GIZ, UNIDO, United Nations Development Programme (UNDP), etc., for which it acts as the primary implementation body at the national level. Through BEE, these organizations channel international climate finance directing it towards activities related to low carbon transition. Aside from carrying out its national duties supporting government initiatives, the NSIC is yet another critical institution to the international organizations facilitates sustainable international partnerships.

International funds are also accessed through the international voluntary carbon markets. Under the CDM mechanism, the National Clean Development Mechanism Authority (NCDMA) was formed to be the primary coordinating, monitoring and evaluating body to projects being carried out under the CDM mechanism. Currently, the NCDMA is the nodal agency coordinating projects being carried out under the international carbon markets.

Box 2 JICA's SVL-SME Fund (SBICAP Ventures Ltd.)

JICA is an international bilateral institute that aims to provide technological and financial support to developing countries. JICA has been assisting the government of India and the state government to work toward its climate actions. JICA has been assisting the government of India and the state government to work toward its climate actions. Through public partnerships, they also cooperate with MSMEs by sharing knowledge, technologies and supporting through finance.

The SVL-SME Fund (Neev II Fund) has been launched by SBICAP Ventures Limited as an initiative for investing equity into high-impact climate action, sustainability, and social impact businesses, especially for SMEs in India. The Fund has unlocked a pool of private equity capital from JICA in December 2021. JICA concluded Rs 214 crore Indian rupee (approximately 3.2 billion yen) investment agreement with the SVL-SME Fund whose fund manager is SBICAP SVL. JICA's investment will be appropriate for investments in SMEs that are engaged in solving social and environmental issues in India. JICA and SVL will continue their efforts to support SMEs and keep providing funds that are tackling environmental and social issues in India by leveraging the knowledge and network it has acquired through their collaboration. This also strengthens the existing relationship between SBI and JICA to take forward their cooperation to empower the SMEs in India through private sector finance.

With the support of JICA and SBI, Neev II Fund will provide equity and quasi-equity financing to pioneering SMEs that deliver solutions that benefit the population both locally and globally. This fund will create jobs by facilitating the expansion of SMEs in India that are engaged in businesses to adopt technologies such as renewable energy, climate action, environmental improvement, sustainable agriculture, and urban transportation, in addition to clean water, health and sanitation. It will also contribute to solving Environment, Social, and Governance (ESG) issues as well as achieving the Sustainable Development Goals (SDGs). The SVL-SME Fund has so far created more than 9,600 jobs and improved governance standards across the portfolio company value chain impacting 10 million lives and has reduced 5 million tonnes of CO₂ emissions. It also connects about 2,90,000 individuals annually with clean energy and has raised 3 times the invested capital from debt and equity providers for growth and scale-up (Neev Fund, 2022).

Policy landscape enabling finance for LCT in India's MSMEs

Transitioning to a low carbon emitting economy will require strong legal framework, institutional arrangement and regulatory mechanism to work cooperatively in order to achieve India's climate goals. The Energy Conservation Act, 2001, provides the legal framework for efficient use of energy and its conservation and established BEE as the central institution responsible for the implementation of policies and programmes related to energy and coordinates the implementation of energy conservation activities. Together, they dictate the broad regulatory framework towards increasing energy efficiency and lowering energy intensity in India. The objectives of the Act and the operations of BEE directly lend itself towards the country's low carbon transition pathway and achieving the NDCs.

Borrowing from India's NAPCC, activities towards low carbon transition of the economy includes climate change mitigation activities such as adoption of renewables, lowering energy intensity and adopting energy efficient processes that can lead to energy security, reduced local pollution, and increased access to energy through distributed and decentralized forms of energy systems (GOI 2008). For the purpose of this study, financial instruments such as schemes and programmes towards this definition of LCT and related activities have been considered moving forward.

As noted earlier, MSMEs in India face challenges in accessing overall finance for development. For the purpose of this study, the focus is on accessing climate finance to aid and assist MSMEs toward a low carbon transition pathway. Therefore, this section focuses on mapping the central schemes and policies oriented toward providing access to finance to scale up businesses sustainably, for technology upgradation, capacity building, and financial access, among which the main goal is towards access to climate finance.

The Micro, Small, and Medium Enterprises Development (MSMED) Act was enacted in 2006 to address the various legislative issues impacting MSMEs, their scope and investment ceilings. The Act aims to help these businesses grow and compete by making it easier for them to do so. Beyond the MSMED Act, the 1956 Khadi and Village Industries Commission Act and the 1953 Coir Industry Act are legislative provisions that target niche sub-sectors of MSMEs and their functioning. These three Acts form the central legal framework aiming to help these businesses grow and compete by making it easier for them to do so.

However, these legal provisions do not feature directions for transitioning the MSME sector towards becoming a low-carbon emitting sector. Efforts to financially assist and encourage the sector's low carbon transition at the national level can be observed through schemes being carried out by either the Government of India, financial institutions or multilateral collaborations. The RAMP scheme, MSME Sustainable ZED certification scheme, MSE Cluster Development Programme, Credit Guarantee Fund Scheme for MSE and the BEE-SME scheme 'National programme on Energy Efficiency and Technology Up gradation of SMEs' is some of the centrally launched and funded schemes and programmes by the Ministry of MSME which is contributing to LCT efforts in the sector. International and multilateral organizations also fund schemes to support MSMEs towards transitioning to low carbon and energy-efficient systems with the help of national implementation bodies such as BEE and SIDBI. These schemes are implemented nationally. The BEE-UNIDO-GEF Programme on 'Promoting EE and RE in selected MSME clusters in India', GEF-WB-BEE Scheme on 'Financing Energy Efficiency at MSMEs'

and the JICA-SIDBI Financing Scheme for Energy Saving Projects in MSME Sector are some of the major interventions executed at the national level through multilateral collaboration and international funding. Besides nationally implemented schemes and programmes, States also have various schemes, policies and programmes financially supporting the low carbon transition of the sector.

Central schemes and policies to drive low-carbon transition in India

Table 2 National Implementation Instruments

| Central Schemes | Implementation body | Funding Institution | Focus Area |
|---|-----------------------------|--|--|
| National programme on Energy Efficiency and Technology Up gradation of SMEs ('BEE-SME Scheme' henceforth) | Bureau of Energy Efficiency | Government of India | Energy efficiency, technological advancement and upgradation |
| Raising and Accelerating MSME Performance Scheme ('RAMP Scheme' henceforth) | Ministry of MSME | Government of India And the World Bank | Technological advancement, market access |
| 4E (End to End Energy Efficiency) Scheme | SIDBI | Government of India and SIDBI | Technological advancement, energy efficiency, market access |
| MSE Cluster Development Programme | Ministry of MSME | Government of India | Technological advancement, market access, capacity building |
| Credit Guarantee Scheme for Micro & Small Enterprises (CGTMSE henceforth) | Ministry of MSME | Government of India | Market access and financial support |
| MSME Sustainable (ZED) Certification | Ministry of MSME | Government of India | Technological upgradation, capacity building, market access |

- 1. BEE-SME Scheme** – *National programme on Energy Efficiency and Technology Up gradation of SMEs*
Aiming to accelerate and increase the uptake of energy-efficient technology in the SME sector, the BEE, funded by the Government of India launched the National Program on Energy Efficiency and Technology Up gradation of SMEs specifically to improve the energy efficiency performance in the sector. The scheme focuses to improve the energy efficiency of the SME sector in India through accelerating the adoption of energy-efficient technologies, knowledge sharing, capacity building, and development of financial of innovative financial mechanisms (Bureau of Energy Efficiency, 2020).
- 2. RAMP Scheme** – Raising and Accelerating MSME Performance
This scheme focuses on improving access to market and credit, strengthening institutions and governance at the Centre and State, improving Centre–State linkages and partnerships, addressing issues of delayed payments, and greening MSMEs. The Government approved the USD 808 million programme to be commenced from the FY 2022-2023. The programme will be assisted by the

World Bank contributing to USD 500 Million in the form of a loan (Information Press Bureau, 2022). Here, guarantees are offered for banks and financial institutions to extend collateral-free financing to Micro and Small Enterprises (including NBFCs). The Scheme covers up to INR 200 lakh per borrowing unit of collateral-free credit (term loan and/or working capital) issued by qualifying lending institutions to new and existing micro and small businesses. Depending on the size of the loan and the kind of beneficiary, the guaranteed protection given under this scheme ranges from 50% to 85%. On the outstanding loan amount, an Annual Guarantee Fee of up to 1.80 percent per annum of the credit facility sanctioned (2 percent for retail trade) is imposed, with a minimum Guarantee Fee of 1 percent per annum.

3. 4E (End to End Energy Efficiency) Scheme

SIDBI launched the 4E scheme for providing support to MSME for implementing energy efficiency measures on an end-to-end basis. The scheme focuses on promoting energy efficiency investments in MSMEs. Investments and financial assistance towards implementing energy efficiency measures, new technology upgradation in types of machinery that conserves energy, and investment towards rooftop solar. It will support the part cost of capital expenditure which includes the cost of equipment, machinery, civil works, installation, and commissioning. The implementation of energy efficiency measures or any related expenditure will be supported provided it does not exceed 50 % of the project cost. The programme helps MSME to achieve energy savings (10-25 %) through support from consultants at a reasonable rate with good service quality. The charges for energy audits, support for implementation, etc., are between INR 1.5 Lakhs and 2.5 Lakhs (Startup India, 2022). SIDBI has refreshed the corpus of the 4E scheme which is now in collaboration with the World Bank.

4. MSE Cluster Development Programme

The Ministry of MSME adopted the Cluster Development approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of MSEs and their collectives in the country in 2019. The scheme focuses on encouraging sustainable technology, build/upgrade infrastructure, building capacity and promoting green and sustainable manufacturing technology in order to enable units to switch to sustainable and green production processes and products. The programme primarily aims to support the sustainable growth of the MSE sector by addressing common issues such as improvement of technology, skills & quality, market access, etc., build capacity through formation of self-help groups, consortia, upgradation of associations, etc., create or upgrade infrastructural facilities in the new and/or existing industrial areas and clusters, set up Common Facility Centres (CFCs), and promote the adoption of green and sustainable manufacturing technologies for the clusters so as to enable units switch to sustainable and green production processes and products. As of 2020, 444 interventions under the MSE-CDP have either been approved, is ongoing, or has been completed across the country.

5. Credit Guarantee Trust Fund for Micro & Small Enterprises (CGTMSE) Scheme

The high-risk perception of the banks towards lending financial assistance to MSEs and their consequent insistence on collaterals is one of the major causes of the low availability of banking finance to this sector. The Credit Guarantee Trust Fund Scheme for Micro and Small Enterprises (CGMSE) was launched by the Government of India under the authority of the Ministry of MSME and SIDBI to make available collateral-free credit to the micro and small enterprises sector. The scheme aims to encourage first-generation entrepreneurs to venture into self-employment opportunities by

facilitating credit guarantee support for collateral-free or third-party guarantee-free loans to Micro and Small enterprises (MSEs), especially in the absence of collateral. Under this scheme, there have been over 8 Lakh guarantees approved worth almost 37,000 crore INR during the 2020-21 financial year (CGTMSE, 2022).

6. MSME Sustainable (ZED) Certification

The MSME Sustainable ZED Certification scheme is an extensive drive by the Ministry of MSME to create awareness about Zero Defect Zero Effect practices and motivate and promote the development of an ecosystem for ZED manufacturing standards and operations in MSMEs. The Government of India envisioned the ZED initiative to enhance MSME competitiveness, make them sustainable, and transform them into National and International Champions. The scheme encourages and enables MSMEs for manufacturing quality products, develop an ecosystem for ZED manufacturing, promote the adoption of ZED practices, encourage MSMEs to achieve higher ZED Certification levels through graded incentives, and increase public awareness of demanding Zero Defect and Zero Effect products. Currently, there are 77 ZED-certified MSMEs across all sectors in the country (Ministry of MSME, 2022). All MSMEs registered with the UDYAM registration portal (of the MoMSME) will be eligible to participate in MSME Sustainable (ZED) Certification and avail of related benefits and incentives.

Multi-stakeholder Partnership (MSPs) Approach in Climate Action

Multi-stakeholder partnerships for sustainable development have been in operation for several decades signalling the changing nature of public policymaking which has shifted from being solely government-centric to focusing on governance that included increasing engagements with private and non-state actors who influence policy (Mathivathanan et. al., 2018). In this type of arrangement, private actors predominantly take the lead in shaping a policy process through agenda setting, negotiations, resource provision implementation, monitoring, or enforcement (Pinkse and Kolk, 2012). The main rationale behind such an arrangement is to utilize additional resources that are easily available and accessible through private involvement. There are a few public-private partnerships that run on orthodox command and control policies (Felsing et al., 2008). However, in the multi-stakeholder approach, there is a collaborative form of governance that is less structured and steered in such a manner that autonomous policy actors combine forces in all stages of the policy process. The whole premise of MSPs is to form a synergy between the governmental actors such as intergovernmental organizations and non-governmental actors such as civil societies which will be inclusive in nature. This will create a win-win situation where public-private partners will come together which means resources will be put together in a common pool for effective implementation of the SDGs. MSPs have further evolved from general public-private partnerships to public-public and private-private partnerships. Multi-stakeholder partnerships provide the benefit of pooling resources, which ideally enables each partner to play to their strengths in order to produce a stronger and more credible impact. Collaborations between businesses and NGOs, for instance, combine the size and market power of businesses with the legitimacy of NGOs. Such cooperative arrangements have

been increasingly encouraged in the international climate change governance space in recent years (Schmidt-Traub and Sachs 2015).

Role of Multi-stakeholder Approach for LCTs in the MSME Sector

MSPs have the potential to leverage additional finance for the energy transition of MSME clusters by bringing together various stakeholders. It has been established through literature that private investment will play a key role in mobilizing funds for MSME clusters in India to LCT pathways (Schaer & Kuruppu, 2018). The inherent characteristics of MSPs will remove some of the barriers to mobilizing finance to address the demand gap, market access, capacity building, etc. MSPs could broaden the engagement and cooperation of numerous stakeholders locally, increasing the legitimacy of actions towards the mobilization of climate finance. Partnerships could broaden the engagement and cooperation of numerous stakeholders locally, increasing the impact of actions that aims toward enhanced access to climate finance for MSME clusters. MSPs in the context of LCTs in the MSME sector can include competing stakeholder demands as the partnerships will serve as a platform to visibly set priorities between these demands. These partnerships often belong to various backgrounds and hence knowledge transfer within and outside the partnerships is a crucial part of fulfilling the objective of LCTs, especially for developing nations like India. Multistakeholder partnerships for climate action have demonstrated a clear division of roles between the partners in which companies bring specific knowledge and expertise, NGOs provide local embeddedness and contacts, and supporting activities such as training and capacity building; and governments supply funding, usually to reduce risks and facilitate the activities (Dodds, 2015). The following table includes examples of MSPs supporting the mobilization of finance in the MSME clusters in India.

Table 3 A few examples of MSPs to mobilize finance for LCT in MSME in India

| | Instruments | Implementation Body | Financing Institution | Key Focus Areas |
|---|--|------------------------------------|--|---|
| 1 | Promoting EE and RE in selected MSME clusters in India | Bureau of Energy Efficiency, UNIDO | GEF | Energy efficient technologies, Capacity building |
| 2 | Financing Energy Efficiency at MSMEs | SIDBI, Bureau of Energy Efficiency | GEF, World Bank | Market access, Capacity building, Technological advancement |
| 3 | Financing Scheme for Energy Saving Projects in MSME Sector | JICA, SIDBI | SIDBI, State Finance Corporations, Non-Banking Financial Companies | Market access, Energy efficient technologies |

1. BEE-UNIDO-GEF Programme – Promoting EE and RE in selected MSME clusters in India

In September 2011, with the support of the GEF UNIDO initiated the project titled 'Promoting EE and RE in selected MSME clusters in India' in collaboration with BEE, the Ministry of MSME (MoMSME), and the Ministry of New and Renewable Energy (MNRE). The aim of the project was to introduce EE and enhanced the use of RE technologies in MSME clusters for the development and promotion of the market environment. Hence, NIDO-GEF-BEE a Project Management Unit has been set up in New Delhi to channel the grant to the targeted beneficiaries and to coordinate activities in the 12 clusters. The scheme focuses on the development and promotion of a market environment for introducing EE and enhanced use of RE technologies for process applications in 12 selected MSME clusters under five energy intensive MSME sub-sectors i.e., Brass, Ceramic, Dairy, Foundry, and Hand tools.

2. GEF-WB-BEE Scheme – Financing Energy Efficiency at MSMEs

The Project Financing Energy Efficiency at SMEs was conceptualized as a part of the GEF Programmatic Framework for Energy Efficiency in India. GEF and the World Bank through SIDBI and BEE are implementing an initiative on financing Energy Efficiency (EE) in MSME Clusters in India to improve EE and reduce GHG emissions from MSMEs by utilizing increased commercial financing for EE. The Grant agreement was signed in 2010, and the effectuation of this grant took place on October 28, 2010. Total GEF Funding under the project available to SIDBI is 9.05 million USD to be utilized over a period of four years. The scheme focuses on systematically supporting the development of a programmatic approach to aggregate demand for EE investment in MSME industrial clusters, and to create a sustainable mechanism for identifying, preparing, and financing prospective proposals at the local level.

3. JICA-SIDBI – Financing Scheme for Energy Saving Projects in MSME Sector

SIDBI and JICA came together to promote energy-saving projects in MSME by providing financial assistance at concessional rates of interest. The financial support will be provided through SIDBI and through refinancing to banks, State Finance Corporations, and Non-Banking Financial Companies. The scheme will support energy-saving investments in plants and machinery in order to reduce energy consumption, improve energy efficiency, reduce CO₂ emissions, and enhance profitability in the long run. The project will provide technical assistance to financial institutions and MSME for promoting energy saving in the MSME sector which will help to achieve environmental improvement and socio-economic development, and address climate change. Some of the eligible sub-projects under the scheme include the acquisition of energy-saving equipment, building envelopes/equipment/heating systems/lighting in compliance with the energy conservation building code (ECBC), and CDM projects involving intervention at the cluster level for change in process or technology (Jaiswal, 2018). The scheme focuses on encouraging MSME units to undertake energy-saving investments in plant & machinery/production processes to reduce energy consumption, enhance energy efficiency, reduce CO₂ emissions and improve profitability in the long run.

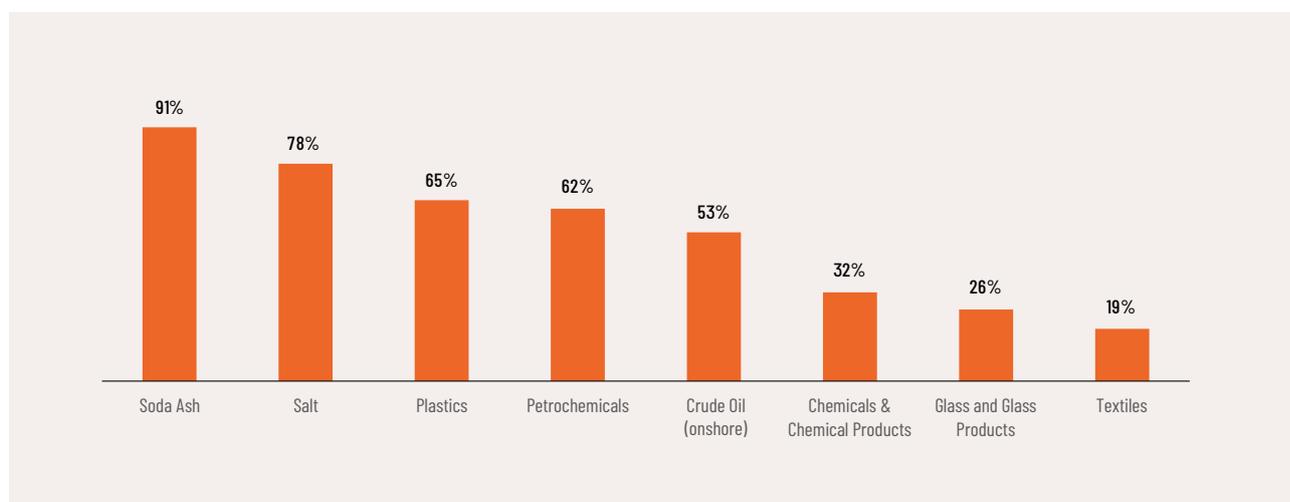
Chapter five

Case Study 1: MSME Policy for LCT in Gujarat

5. Case Study 1: MSME Policy for LCT in Gujarat

Gujarat's MSME sector comprises 5% of the country's total share of MSME distribution with over 35 lakh enterprises (National Sample Survey, 2016). The MSME sector is one of the most vibrant and dynamic sectors in the state. Gujarat is one of India's most industrialized states. Despite accounting for only 5% of the country's population and 6% of the country's geographical area, Gujarat's MSME sector produces roughly 16 % of India's industrial production. MSMEs in Gujarat play an essential role in providing opportunities and employment in the areas of Engineering, Textile, Chemical products, Plastic, Food Processing, Ceramic, Pharmaceutical, etc. Hence, Gujarat is a multi-product MSME cluster in the country. Harmonized relationship of MSMEs with large industries promotes economic growth leading to the enhancement of human capabilities. The state's MSME sector has grown significantly witnessing a 49.9% increase in establishments from 2015 to 2020 (Investor Facilitation Agency, 2021). The number of MSMEs in Gujarat grew by 60% from 2014 to 2015 and currently, Gujarat is home to over 3.5 million MSMEs which are a major source of employment and form an important part of the larger industrial ecosystem. Gujarat has over 83 MSME clusters for different industry groups spread across and developed at different locations (Ministry of MSME, 2019). Ahmedabad, Surat, Rajkot, Vadodara, Bharuch, Jamnagar, Bhavnagar, and Valsad are the major MSME cluster locations in the state. Gujarat contributes significantly to India's economy across the key sectors, including the production of soda ash, diamond processing, dairy, drugs & pharmaceuticals, petroleum products, and chemicals & petrochemicals. The state ranks among the top three in the country across various industrial indicators, among the top three in industrial output in leading MSME manufacturing sectors, and was ranked the top performing in 2017 as per the National Council of Applied Economic Research (NCAER) State Investment Potential Index (Industrial Extension Bureau, 2019).

Figure 4 Gujarat MSME's contributions to Indian economy in key products (% output)



Source: Gujarat Socio – Economic Review 2017-18

Relevant State policies

Currently, there are no laws for promoting LCTs in the MSME or industry sectors in Gujarat. However, the state does have key umbrella policies that contain segments that will assist in the sector's transition to energy efficiency and assist participants in transitioning towards a low-carbon pathway. The critical policy in question is Gujarat's recent 2020 Industrial Policy. The new policy focuses on promoting MSMEs to make them globally competitive. This policy, aside from focusing on key thrust sectors for strengthening integrated value chains, innovation, and research, also promotes the adoption of cleaner and sustainable manufacturing and innovation. This policy can be considered a step up from the 2015-2019 Industrial Policy on which this is built as it contains far more components and assistance schemes focusing on and promoting energy efficiency, environmental measures, and reporting. Though one of the many salient features of the 2015 policy focuses on encouraging the adoption of green, clean-energy business practices, only one of its schemes lends towards the low-carbon transition and environmentally sound practices. In contrast, the 2020 industrial policy contains four components that can help drive the MSME sector's sustainable transition.

The following table highlights some of the major policies and their instruments that focus on and promote actions that can support the sector's transition towards LCTs and low-carbon pathways. Annexure 5 illustrates their key features, eligibility criteria and their nature of assistance.

Table 4 Policy and financing instruments for LCT in Gujarat's MSME

| Year | Policy | Sub-schemes relevant to LCT |
|-----------|----------------------------|---|
| 2015-2019 | Gujarat Industrial Policy | Assistance for Energy and Water Conservation |
| 2020-2025 | Gujarat Industrial Policy | Scheme for assistance for Environment Protection Measures –Assistance in environmental management –Assistance in encouraging "Green Practices and environmental audit to MSMEs" |
| | | Scheme for assistance to Micro, Small and Medium Enterprise –Financial Support to MSMEs in ZED Certification –Assistance for Energy and Water Conservation |
| 2021-2025 | Gujarat Solar Power Policy | <i>(In its entirety)</i> |

Chapter six

**Case Study 2:
MSME Policy
for LCT in
Maharashtra**

6. Case Study 2: MSME Policy for LCT in Maharashtra

The state of Maharashtra's economy relies heavily on MSMEs as it is one of the heavily industrialized regions of India. Maharashtra has the most MSMEs in the country, with more than 3 million, accounting for more than 80% of all employment. MSMEs are better positioned to make use of local resources and generate local entrepreneurship and jobs (Ministry of MSME, 2020). MSMEs in the state are responsible for roughly 40% of all exports. The State Government seeks to strengthen and promote the MSME sector in order to achieve inclusive industrial growth and job creation. The investment limit for incentive purposes for small industrial units will be increased up to INR 50 crore in Fixed Capital Investment (FCI) so that more such units can come under the ambit of small industries (Government of Maharashtra, 2019). The Maharashtra Industrial Policy was implemented in 2019 and will be in effect for a time period of five years. Under this policy, MSMEs are given incentives under the Package Incentive Scheme (PSI-2019) in the form of SGST payments, power subsidies, interest subsidies, and stamp duty and electricity duty exemptions. These advantages are available under conditions that are listed in Annexure 6. Financing initiatives for the state of Maharashtra heavily depend on both state and central government initiatives. The Chief Minister's Employment Generation Program (CMEGP) provides special fiscal support to the MSME sectors in which an amount of INR 3000 is provided to the MSME for 'greening' initiatives in the clusters. The state aims to enhance institutional capacity for incorporating green technologies, like the use of biofuels, in certain MSME clusters. The state government of Maharashtra has been vocal about its initiatives to promote regionally balanced, environmentally sustainable, and inclusive industrial growth where a big chunk of initiatives is towards the MSME sector. In order to mobilize funds for LCTs, critical infrastructure was created to facilitate last-mile connectivity in 2019. The state government also provides fiscal incentives to the MSME clusters in industrial areas to use cleaner technology. One of the challenges for industrial LCTs is the lack of interest from private sources of funding due to the high risks involved in the MSME sector. To address this the state has been divided into different categories of 'talukas' based on the level of expansion and industrial development in which fiscal incentives were provided zone-wise⁴.

⁴ Refer to Annexure 6 for further details.



Chapter seven

Centre-State Policy Alignment

7. Centre-State Policy Alignment

India being a federal system of governance has its own challenges. The primary of them is the existence of numerous actors at various levels which often lead to delays in policy decision-making. Moreover, developing countries face a challenge when the central and state policies become conflicting in nature. Conflicting policies arise when there is an oversight of the scope of central and state policies which often leads to repetition and overconsumption of resources. Mitigating the issue of conflicting policies will require substantive convergence policies which will be effective for achieving India's NDC and climate action targets.

Aside from the state policies that influence the industrial processes and functioning of MSMEs in Gujarat and Maharashtra, many nationally implemented schemes and programmes apply to the sector which influences its operations in convergence or divergence with the state policies. This study analyzes the state initiatives with respect to some of these nationally implemented programmes and schemes that also apply to and actively govern MSMEs in the two states and can contribute to the lowering of emissions within the sector in its pathway to LCTs. Table below lists the relevant centrally operating financing instruments and provides the rationale for selecting them in this study in context to contributing to lowering the sector's emissions contribution and energy consumption.

Table 5 Key focus areas of Central Instruments

| Nationally Implemented Instruments | Key focus areas of the Instruments |
|--|---|
| BEE-SME Scheme | Focuses to improve energy-efficiency of SME sector in India through accelerating adoption of energy efficient technologies, knowledge sharing, capacity building and development of financial of innovative financial mechanisms. |
| RAMP Scheme | Focuses on improving access to market and credit, strengthening institutions and governance at the Centre and State, improving Centre-State linkages and partnerships, addressing issues of delayed payments, and greening of MSMEs. |
| 4E (End to End Energy Efficiency) Scheme | Promoting energy efficiency investments in MSME's. Investments and financial assistance towards implementing energy efficiency measures, new technology upgradation in types of machinery which conserves energy, investment towards roof top solar. |
| MSE Cluster Development Programme | Focuses on encouraging sustainable technology, build/upgrade infrastructure, building capacity and promoting green and sustainable manufacturing technology in order to enable units to switch to sustainable and green production processes and products. |
| Credit Guarantee Scheme for Micro & Small Enterprises (CGTMSE) | Focuses to encourage first generation entrepreneurs to venture into self-employment opportunities by facilitating credit guarantee support for collateral free / third-party guarantee-free loans to the Micro and Small enterprises (MSEs), especially in the absence of collateral. |
| MSME Sustainable (ZED) Certification | Encourage and enable MSMEs for manufacturing of quality products, Develop an Eco-system for ZED Manufacturing, promote adoption of ZED practices, Encourage MSMEs to achieve higher ZED Certification levels through graded incentives, and increase public awareness on demanding Zero Defect and Zero Effect products |

Schemes and programmes operating at a national level have been taken as the focal point in this analysis. Keeping their major focus areas as the crux of the rationale, three broad parameters were identified, i.e., technological advancement, capacity building, and credit and market access. These are the major intervention areas of the nationally implemented MSME schemes and programmes related to contributing to the low-carbon transition. The focus areas of the policies were further broken down to determine sub-parameters, based on which linkages with state policies would be analyzed. These three broad parameters and their subsequent sub-parameters form the basis on which linkages between the nationally implemented schemes and programmes and state-level policies have been analyzed. Table 6 in the next discussion section identifies these sub-parameters based on the various focus areas of each of the national schemes and illustrates how aligned the state policy instruments are to them. A detailed analysis of the policies for Gujarat and Maharashtra and how they align with the central policy instruments are explained in Annexures 7 and 8 respectively in the context of these identified parameters and sub-parameters.

Discussion

Successfully addressing the effects of climate change requires financial resources and sound investments and has a critical role to play in enabling a transition to a low-carbon, climate-resilient economy. Mobilizing sources of finance towards the collective goal of meeting the NDCs requires a strong push in the form of policy interventions and instruments to steer the economy towards mitigating emissions and striving for energy efficiency and adopting non-fossil fuel-based energy sources.

As illustrated in the above sections, various policies and financial instruments have influenced and supported the move towards LCT in India's MSME sector. They have provided critical support towards addressing barriers towards mobilizing finance for LCT and towards influencing market trends to shift towards low-carbon pathways. Institutional arrangements around climate finance for MSMEs have mostly followed national policy responses to climate change in line with the country's global commitments.

Both states of Gujarat and Maharashtra have a high density of MSME clusters and as a result, are high emitters and energy intensive. The above sections investigated how the individual state institutions are facilitating the sector's low carbon transition through policy instruments and their linkages with the central mechanism. It further becomes critical to analyze how the states are aligned with the central policy landscape towards LCT in the MSME space in order to identify contextual needs and how center-state linkages can benefit MSMEs overall in transitioning towards low carbon emissions. This section aims to analyze the different approaches toward adopting measures for LCTs in the MSME sector in Gujarat and Maharashtra.

Table 6 Centre-state alignment mapping

| Parameter | Central Instruments | Sub-Parameter | Gujarat | Maharashtra |
|---------------------------|---|--|-------------------|-------------------|
| Technological Advancement | BEE-SME Scheme | Back ended subsidy for energy efficient technology | Partially Aligned | Not Aligned |
| | RAMP Scheme | Providing access to high-end technology resulting in the digital and technological transformation of MSMEs | Partially Aligned | Partially Aligned |
| | MSE Cluster Development Programme | Sustainable technology and infrastructural improvement, create/upgrade infrastructural facilities, promotion of green and sustainable manufacturing technology | Partially Aligned | Partially Aligned |
| | 4E (End to End Energy Efficiency) Scheme | Implementing energy-efficiency measure on an end-to-end basis and promoting energy-savings | Partially Aligned | Not Aligned |
| | MSME Sustainable (ZED) Certification | Support in technology up-gradation for Zero Effect Solutions | Fully Aligned | Not Aligned |
| Capacity Building | BEE-SME Scheme | Information dissemination and capacity building | Partially Aligned | Not Aligned |
| | MSE Cluster Development Programme | Capacity building of MSEs and start-ups and improvement of skills and quality | Partially Aligned | Not Aligned |
| | MSME Sustainable (ZED) Certification | Public awareness for ZED products and standards | Partially Aligned | Not Aligned |
| Credit and Market Access | MSE Cluster Development Programme | Financial assistance in the form of grants for meeting project objectives and improving market access for MSEs | Not Aligned | Not Aligned |
| | RAMP Scheme | Focus on improving access to markets and credit, and addressing issues of delayed payments | Not Aligned | Not Aligned |
| | 4E (End to End Energy Efficiency) Scheme | Provide investment in clean production and energy efficient clean technologies/production processes | Partially Aligned | Not Aligned |
| | Credit Guarantee Fund Scheme for Micro & Small Enterprises (CGTMSE) | Facilitating credit guarantee support for collateral-free/third-party guarantee-free loans | Not Aligned | Not Aligned |
| | MSME Sustainable (ZED) Certification | Promoting ideal ecosystem for ZED certification standards | Fully Aligned | Not Aligned |

Table 6 broadly illustrates how the two states align with the central policy initiatives based on the three identified parameters of promoting clean technological advancement, building capacities and improving market access towards sustainable options.

Gujarat

Gujarat's 2015 Industrial Policy benefited 32,157 units over a 5-year period with INR 5,246 crores worth of financial support, attracting INR 36,975 Crores worth of investments and generated employment for 2,65,396 people (World Bank, 2020). The financial instruments in the policy provided a significant boost to MSMEs by focusing on infrastructure development, simplification of labor laws and motivation of new innovations through technology transfer. The policy played a pivotal role in boosting businesses and making Gujarat a global manufacturing hub. However, the policy lacked motive for promoting the adoption of cleaner technologies for overall supply chain processes and merely focused on the conservation and efficient use of water and energy in industries and their respective industrial processes⁵.

The state's 2020 Industrial Policy has been a significant policy intervention in terms of including elements that lend to financially supporting the State's MSME sector towards transitioning to low carbon technologies. As illustrated in Annexure 5, the new policy added several elements aiding the MSME sector's transition to low carbon transition in the form of supporting the adoption of cleaner, more energy-efficient technologies, encouraging reporting on environmental standards, promoting the adoption of ZED manufacturing practices and encourages and assists in the conservation of energy and water resources. Additionally, the 2020 Gujarat Solar Power Policy is also a policy intervention MSMEs can benefit from as it aims to encourage MSMEs to reduce electricity cost and further eases the process of utilizing rooftop solar power in MSMEs.

Policy interventions over the last few years have witnessed Gujarat's government align themselves with supporting the aim of meeting India's NDCs and moving towards low-carbon emitting pathways across its sectors (Turner, 2014). The scheme specifically laid out in the 2020 Gujarat Industrial policy towards LCT provides critical financial support, especially towards supporting the MSME sector. As suggested in Table 6, Gujarat partially aligns itself with the central agenda and mirrors the path the country is on towards transitioning towards a low carbon pathway⁶. As had been the case before with the 2015 policy, and other interventions in Gujarat, the major focus still lies in the adoption of advanced technologies. The 2020 schemes also hold true to this focus as the Gujarat schemes partially or fully align with the central schemes on promoting and supporting the adoption of cleaner, more energy-efficient technologies in the MSMEs. The point of slight divergence lies in the instruments adopted at the state and central level and the provisions therein. However, this does not create a point of conflict as the MSME stakeholders can pick out the scheme appropriate to their needs as Gujarat's MSME has various sub-sectors, each with a different set of requirements. There are, however, many takeaways that the state policies can build on to further address overall MSME financing gaps for LCT. Providing back-ended subsidies, promoting digitalization, and focusing on greening the entire supply chain could be areas the state can build on in order to ease the pathway towards LCT in the sector.

Similarly, the state also partially aligns with the center's direction toward building capacity, disseminating information, and building awareness about LCT within the sector. Focus on energy-saving technology and digitalization are areas where the state has the scope to incorporate and enhance further to facilitate the sector's low carbon transition. Furthermore, Gujarat would benefit

⁵ Refer to Annexure 6 for details.

⁶ Detailed analysis provided in Annexure 8.

from intensifying research and development of new cleaner technology solutions and piloting them in the industrial clusters. However, the focus of the state's capacity-building efforts is restricted to building capacities in the area of ZED manufacturing and certification and does not include overall awareness generation and capacity building towards LCT processes and technologies. Dissemination of information related to options available to MSME stakeholders to access financial assistance will be critical for impactful change and generating demand for low carbon technologies in the market space. Generating awareness about available schemes and sources of financial assistance will also be key to mobilizing finance from the private sector institutions. Policy diffusion from centre to the states will need to be greatly enhanced to promote capacity-building activities in the sector.

A similar trend can be seen with the market access parameter where the state only aligns with the centre on providing investment opportunities only for promoting the ideal ecosystem for ZED certification standards. Interventions with respect to financial assistance to support market accessibility, generate demand, and facilitate investments are vital elements to assist in MSME low carbon transition. In almost all sub-parameters determined through the nationally implemented schemes and policies, Gujarat seems to lack a holistic approach to providing stakeholders with financial incentives and benefits. Financial instruments and assistance in the form of grants, delayed payment schemes, credit guarantees, and collateral-free loans would significantly attract MSMEs and drive them towards adopting LCT options. Financial assistance in the form of allowing MSMEs to rent, lease, offering grants, covering 'soft costs' like that of consultation fees and audit charges, and the option of delayed payments would benefit MSMEs to better access the technological solutions available in the market.

Maharashtra

The state government of Maharashtra has identified an investment limit for incentive purposes for small industrial units to be increased up to INR 50 crore in Fixed Capital Investment (FCI) so that more such units can come under the ambit of small industries (Government of Maharashtra, 2019). The policy identified several fiscal initiatives to enhance the production of MSMEs including aiming to switch to green products and promote the use of biofuels in clusters across the state. The Industrial Promotion Subsidy aims to provide a 100 percent subsidy and states that gross state GST is payable by the units on the sale of qualified products. There are further provisions of interest subsidy, waver stamp duty, green energy/biofuel production, and green industrialization assistance in the state industrial policy which has been further elaborated in Annexure 6. The potential energy efficiency measures across the state of Maharashtra have been identified in its revised industrial policy. The analysis of understanding the degree of alignment between central and state policies is solely aimed to identify opportunities for mobilizing finance to achieve LCT pathways in the MSME clusters for the state of Maharashtra. The mapping exercise found that more than 75 percent of the sub-parameters identified do not align with the state industrial policy of Maharashtra. The analysis is further broken down to identify whether this alignment, or the lack of it, has positive or negative implications on mobilizing finance to the MSME clusters of the state. For instance, there were no provisions of back-ended subsidy at the state level as opposed to what the central schemes provide. A back-ended subsidy refers to the subsidy amount that will be adjusted on completion of the project and interest on the subsidy component is not charged to the loan amount. Provisions of back-ended subsidies can lead to a reduction of debts which would

likely lead to better investment opportunities for switching from old technologies to energy-efficient and RE products for the MSME clusters in the state. For instance, the government of Tamil Nadu recently launched a back-ended subsidy scheme for MSMEs at a 3 percent interest rate to enhance energy efficiency at clusters which showed exceptional response from beneficiaries (Micro, Small and Medium Enterprises Department, 2011). A similar initiative can be taken up by Maharashtra to include provisions of back-ended subsidy in the next revision of the industrial policy.

Additionally, the state policy does not have major provisions of financial instruments to promote the adoption of alternative clean technologies across the MSME clusters except for promoting the use of biofuels. This divergence from the central schemes suggests that trade-finance particular to supply chain finance can be a provision that can be added to the existing or upcoming industrial or MSME-specific policies. Due to its potential to link players and reduce the risk associated with the transaction across the value chain, supply chain finance is anticipated to play a crucial role in addressing the MSME sector for the state of Maharashtra. However, in order to close the funding gap and promote broadly inclusive and sustainable growth for various trade finance ecosystem stakeholders, there needs to be considerable R&D and innovation for utilizing clean technology products and greening the operational processes. This will also lead to improving market access where the MSME clusters can sell their products that are green to a certain extent, which can also solve the problem of demand for green products. Furthermore, it will also reduce the transaction costs and improve the viability of penetrating green alternative technologies in the MSME clusters across the state. Therefore, provisions with respect to financial assistance to support market accessibility, generate demand and facilitate investments are vital elements to assist in MSME's low carbon transition in Maharashtra. Lastly, capacity building, a critical element on the road to LCTs and one of the key focus areas of the nationally implemented policies and schemes, is lacking in the state industrial policy of Maharashtra. Due to the unorganized nature of clusters, there lacks a formal awareness and information dissemination framework to convey existing financial incentives and instruments for energy efficiency at the grassroots level, and hence, does not lead to significant penetration among beneficiaries. The existing Maharashtra industrial policy has identified fiscal incentives for promoting the use of biofuel and substituting old emission-intensive machinery with energy-efficient machinery. However, there is evidence across the state that clusters are unaware of existing provisions and lack the capacity to apply for the schemes (Dalberg, 2015). This eventually adds to the lack of demand in the sector to transition to low carbon emitting systems and the existing financial incentives remain underutilized.

Chapter eight

Barriers to Financing LCT

8. Barriers to Financing LCT

India's climate action targets on climate mitigation will require a substantial policy shift from business as usual (BAU) to impact-orientated policy action across all sectors, including MSMEs. India's pursuit to fulfil its climate action targets is conditional upon receiving USD 1 trillion dollars from external donors (Nandi, 2021) from developed nations, multilateral banks, and advanced economies which is a contentious matter in the international climate negotiations arena. Post India's climate action announcements in Glasgow, there have been several proactive steps taken by the government that highlights the priority of achieving the NDCs. The most promising of these is the latest union budget which emphasizes the need for finance for LCTs in Indian industries and to create a framework for sovereign green bonds. However, despite policy shifts and rigorous government interventions, there still exists a gap in leveraging and mobilizing climate finance for achieving national climate action targets. Synergizing sustainable development and climate action targets continue to be a challenge, especially in the MSME sector. Hence, this section highlights these major roadblocks that hinder India's ambition for LCTs in the MSME sector based on findings from stakeholder consultations and literature reviews. The barriers could be understood from the demand for green finance perspective as well as the supply of green finance point of view.

Limited provisions for awareness generation and capacity building

One of the key challenges for MSMEs is their limited awareness of available financial assistance tools and the lack of capacity to adopt energy efficient technologies. Knowledge among stakeholders are also limited in matters of climate finance structures, policies, and the various instruments across MSME clusters. This trend can also be seen in both the states of Gujarat and Maharashtra, especially where most of the clusters are microbusinesses. This leads to the inability of stakeholders to understand and, hence, prioritize the potential benefits and available assistance for transitioning to low carbon pathways to address climate related risks.

Low demand for green finance

The demand for financing the greening of MSMEs is relatively niche due to several reasons. Despite many schemes and programs to financially support MSMEs to transition to greener alternatives, most are, firstly, unaware of these opportunities, and secondly, do not consider the change a priority. These issues stem from a critical lack of awareness about the financial assistance available to them and the benefits it would have to transition to low-carbon-emitting technologies stakeholders from different sectors during consultations highlighted that the transaction costs involved in accessing financing for greening the sector are also perceived to be high by the sector. The lack of awareness about green finance opportunities leads the MSME community to believe that the transition to greener alternatives would be an expensive affair, and hence, there is significant hesitation among the stakeholders. Additionally, newer, more energy-efficient and RE technologies are in their R&D or piloting stages and have a high upfront capital cost attached to them. This also adds to the hesitation among MSMEs to commit to LCT.

With the goal of assisting MSMEs in making the transition to modern, energy-efficient technology, several mechanisms and programmes, backed by the World Bank, the GEF, etc., have been successfully implemented. However, due to various issues ranging from the risk and the lack of demand for an

initial investment, procedural requirements including the development of thorough project reports, energy and emission audits, etc., involvement of MSMEs in the states in these programmes has been restricted. Many small and micro businesses cannot implement these because they lack the resources to do so.

Limited hand-holding of the MSME sector

Despite the scope and to some extent provisions for finance, the lower uptake in the MSME sector can also be explained in terms of the need for handholding of the sector towards greening it. Many efforts of working with the MSME sector for improving energy efficiency, for example, the initiatives of Development Alternatives (brick sector) and The Energy and Resources Institute (glass foundries), illustrate the fact that the sector needs active handholding to adopt new technologies. The low technical skills at most of the MSME clusters make them hesitant as well as not enterprising to explore newer technologies, even when they are readily available. Active technical assistance, demonstrating value by successful implementation at a number of enterprises is what encourages MSMEs to take up new innovations. Financial provisions dedicated to such interventions are limited. Moreover, the need for handholding also highlights the fact that in the absence of such technical support the transaction cost of experimenting with new technologies, with a low demand for greener products, is not an economically attractive option for MSMEs which already operate at a lower scale. The transaction cost is too high compared to their annual turn-overs.

Limited innovation and funds for extensive R&D and pilot projects

The adoption of certain technologies by MSMEs for LCT requires significant research and development, followed by pilot projects in the local contexts. It is only after successful demonstration of adoption and economic viability of alternative technologies, majority of the MSME owners begin to switch towards alternative technologies. The demonstration alone is not enough though. It must be followed by developing standards and policies in order to ensure sustainable impact. The available financial provisions are not adequately supplemented by finance for R&D, demonstration, and standards.

Lack of data, regulations, and compliance

Given the unorganized nature of MSMEs, there is an acute data scarcity, particularly with respect to emissions data. This corresponds to difficulty in planning and executing long-term sustainable development within the MSMEs. This deficiency in data also results in an absence of reporting and monitoring frameworks for MSMEs. Additionally, there is no mandate or cap in place for emissions in MSMEs. The sector's drive towards LCT is predominantly based on incentives and voluntary involvement. Larger industrial sectors have these checks and balances in place in the form of regulations and standards and failing to meet them would result in penalties. Similarly, successfully driving industries and perceptions within the MSME stakeholder towards a LCT, will require both incentives as well as regulations in order to influence the shift to RE and EE technologies. However, the unorganized nature, scepticism about green alternatives and the low level of awareness and capacity in MSMEs make it a difficult affair to implement regulatory and reporting frameworks and implement compliance-based targets. The large number of actors in the sector also makes it difficult to enforce regulations unless the actors are willing participants. This collectively leads to low demand for green finance.

Supply Gaps

The high risks and upfront capital investments of cleaner technologies lead to hesitation among the smaller MSMEs stakeholders, to adopt greener alternatives and transition towards low-carbon technologies. The lack of push from the larger players consisting predominantly of the hard-to-abate sectors poses a challenge in terms of mobilizing private sector finance as an additional and much-needed source of finance for LCT. A still-evolving capital market and upfront high capital costs for green products have lent themselves to deprioritizing LCT within the supply chain and leading to an acute lack of private involvement and investment at the MSMEs level. Limited awareness and lack of an enterprise-friendly information database also add up to the issue of not having an adequate supply of financing LCT.

Difficult Access to Institutional Finance

Due to well-defined horizons of climate finance and lack of a green taxonomy, most of the international climate finance gets linked to the Official Development Assistance (ODA) which leads to an accessibility issue for MSME clusters. There is a need to better define the financial allocation from the institutions including the amount of finance leveraged and modalities of co-financing. It is important because much of climate finance is in the form of co-financing that developing countries like India generate internally, often from public and private funding. The commercial banks in India are reluctant to finance MSMEs due to the perceived high the financial risks involved which is a significant constraint in accessing finance and adds to the problem of lack of predictable finance. The ecosystem of institutional finance is not adequately aligned with the needs of the MSME. Although climate finance is understood to be directed for supporting the transition to a low-carbon global economy, it has been experienced that the current definition acts as a barrier for accessing finance for the high-emitting and MSME sectors, who are the critical stakeholders for enabling a transformative shift in a country's emissions. This gap is a major hurdle in allowing industrialized economies to frame ambitious mitigation targets without adversely impacting their economic output, development indicators or over-burdening their critical industries.

It has been recorded that only 16 percent of MSMEs are being financed by the formal banking system in India. A similar trend can be seen in both states of Gujarat and Maharashtra where financing MSME is carried out by formal financing institution structures like the Union budget, state budget, and international climate funds like GCF and GEF which follow stringent standards and regulations that lead to several bureaucratic barriers. For initiatives that deploy financial solutions for MSMEs, international climate financing organizations and facilities like the GCF require applications from a dedicated accredited entity or a qualified financial institution collaborating with an entity authorized by the GCF which is time taking and complex for several MSME clusters.

Limited pipeline of bankable opportunities

A shortage of opportunities in terms of investments towards low carbon transition pathways which has resulted from stressed balance sheets in the aftermath of COVID-19, has led to muted demand for finance for innovation, a lack of 'first-mover-advantage' for firms that undertake LCT measures, and capacity/resource constraints within financial institutions. The pandemic has led to more focus on development activities to stabilize the economy to pre-pandemic levels which has resulted in the Indian MSME sectors to thrive and use emissions intensive products.

Missing supply chain in financial provisions

The MSMEs do not constitute independent industry sectors. They are part of the larger sectoral supply chain. The provisions that have made to make finance available for the MSMEs to improve energy efficiency and promote use of renewable energy do not take the complexities of being part of a larger supply chain. If the MSMEs don't see a benefit for themselves along the supply chain, they are not likely to access finance even if it is available.

Availability vs scale of financial needs

The financial needs assessment for the MSME sector's transition to LCTs is usually based on cost of technology adoption. While commensurate finance has never been made available, it must also be recognized that the transaction cost of technical assistance of such transition is not included in financial needs assessments. A more comprehensive assessment of financial needs that can effectively push transitional dynamism, would leave currently available finance lagging far behind.

Chapter nine

Recommendations and Way forward

9. Recommendations and Way forward

To address the identified challenges for leveraging finance for LCT in the MSME sector, the report makes the following recommendations based on a review of existing literature and stakeholder consultations⁷:

Promoting an incentive-based model

Rapid economic development has led to immense levels of energy consumption and an unprecedented rise in greenhouse gas emissions. An incentive-based approach to financing LCT should be able to steer MSMEs towards adopting energy efficient and low carbon emitting technologies. As illustrated in the previous sections, various financial and policy instruments are being deployed at the central and state levels in India in order to encourage enterprises to move towards sustainable low carbon processes. These efforts need to be more intensive and widespread for India to reach its global and national commitments. For instance, financial assistance for adopting newer, more efficient technologies for pursuing ZED certification could be increased in order to fund more costly technological upgradations. The banking sector needs to nudge MSMEs towards clean energy, resource efficiency and circular economy measures through concessional and incentive-based credit. Daughter funds can be created in existing funds wherein the daughter funds can focus on green activities. Funding through these mechanisms would also need to be supplemented with international climate finance. There is a need for extensive dialogue between multiple stakeholders to come up with these mechanisms.

Key incentive mechanisms that should be adopted or scaled up for LCT are listed below:

Credit incentives: Special provisions for MSME exist under priority sector lending norms by the Reserve Bank of India. Credit availability and access should be made easier and incentivized with further linkages to low carbon measures in MSMEs. From stakeholder consultations, it was also evident that the awareness for such aspects is low and hence there is a need for concerted efforts by state and national governments to sensitize MSMEs on priority sector lending provisions.

Subsidy incentives: Subsidy support to MSMEs to retrofit to low carbon infrastructure can be scaled up to meet the high cost of cleaner technologies. Special funds have already been created as a part of 'Atmanirbhar Bharat' Package that provides relief measures for MSMEs. 'Fund of funds' or 'Daughter funds'⁸ can be further modified to incentivise MSMEs taking measures for low carbon transitions.

Fiscal incentives: Fiscal incentives such as tax incentives for adopting low carbon technologies in the MSMEs is another means to incentivize MSMEs that should be scaled up in order to meet the financial requirements for LCT within the sector.

Programmatic incentives: Dedicated budgetary spending can also be promoted by developing schemes that specially incentivize and provide support to MSMEs for LCT. Currently, this aspect is more evident at the national level and can be further strengthened at the state level to cater to regional challenges and requirements.

⁷ Reflections on recommendations have been derives from stakeholder consultations, the summaries of which are illustrated in Annexure 2.

⁸ The daughter funds provides risk capital to companies developing new technologies.

Push from large companies

The larger companies in the hard-to-abate and manufacturing sectors can play a significant role to encourage MSMEs to adopt low-carbon emitting pathways. Large companies source raw materials from their MSME partners and can encourage them to adopt greener products and processes in their supply chain. This could be achieved through voluntary or regulatory interventions requiring large players to report on their source materials and adopting greening standards for raw materials. Through this mechanism, large companies can encourage their MSME partners to adopt greener processes by financially investing in them, in order to include the emission reduction by the partners under scope III emissions.

Innovative financing models

The MSME sector faces many obstacles in funding their businesses, especially from formal finance sources (e.g., banks). Addressing these various barriers to MSMEs in accessing climate finance will require innovative financing models. For instance, promoting local bodies to adopt greener mechanisms through community-based financing models would allow enterprises to have greater business independency. However, given that the MSME community is not so forthcoming towards LCT, such models need strong backing by the government and support of the industry associations.

Blended finance tools are also an innovative financial structuring mechanism to incentivize commercial investors to invest in low carbon measures in MSMEs. Using catalytic capital from the public or philanthropic sources, transactions can be de-risked to improve their risk-return profile. Furthermore, daughter funds can be created for de-risking. Partial guarantee funds and risk management tools can be further promoted at the state or regional level.

Intensify R&D, demonstrations and pilot projects for new technologies

The unorganised nature and the lack of awareness in MSMEs make it difficult to disseminate information regarding ways to transition to adopting energy efficient and low-carbon emitting technologies. Intensifying the number of project demonstrations and pilot projects for newer technologies would address this gap by exposing enterprises to options within their sub-sectors. Demonstration and pilot projects also help to better adopt foreign technologies, aligning them to the localized needs. Successful demonstrations and pilot projects become references to best practices that can influence other MSMEs to adopt the suggested newer technologies. By increasing awareness about new technological solutions and showcasing them in the local context, it would lead to greater demand in shifting to energy efficient and low-carbon emitting systems. A dedicated fund of adequate size to support R&D for adoption and demonstration through pilot projects can go a long way, not only in pushing the sector to LCTs but also build a credible centralized database for customized designing of incentive structures.

Scaling up capacity building and awareness

The need for building capacity in India's MSME sector stems from several reasons. Besides generating awareness about new or alternative energy efficient and low-carbon technologies, MSME personnel need to be capacitated in order to work with these new technological solutions to ensure a just transition and sustained impact. Furthermore, there is an acute need to build MSME capacity for them to access commercial finance. Given their unorganized nature, MSMEs need to be made aware of the financial support instruments such as schemes and incentives at their disposal, both at national and state level, and how to access them. Efforts to build capacity in these areas are underway at both

the central and state level through various schemes and programmes but will need to intensify and be more widespread in order to yield impactful results and support India's attempt to meet its global emissions and energy targets. MSMEs also need to be made more aware of industry standards and best practices in order to encourage the adoptions of new technological solutions and shift to energy efficient and low-carbon technologies and processes. For instance, awareness about ZED products and standards needs to be amplified to increase demand for Zero Defect and Zero Effect products.

Adoption of an account aggregator framework

An account aggregator framework could be helpful in assisting the sector by enhancing access to debt financing, eliminating fraud, and reducing non-performing assets. The framework might also make it possible to securely share digital financial data. For instance, the 'SAHAY' platform that provides MSMEs with quick digital lending and secure access to GST invoices in place of physical collateral is a good example for emulation and scaling up.

Similarly, a single window mechanism can be created where all financial institutions/ banks could be listed. From the listed institutes it will be easier for MSMEs to find the organizations and match from where they are getting finance at least transaction cost. This mechanism will also reduce the time and hassle for MSMEs for accessing finance.

Adopting revolving finance mechanism

Revolving finance is a flexible financing method that allows the borrower to take credit again without going through the entire loan approval process. Finance through this mechanism can help in reaching out to more MSMEs by supporting in addressing the technological and financial risks faced by the sector. This flexibility is important for LCT as these MSMEs prefer collateral-free loans which are easily accessible.

Forming a digital ecosystem

The development of a holistic digital ecosystem would support MSMEs in transitioning in numerous ways. This would support MSME stakeholders in reducing their transaction costs for accessing small loans, building a reliable database, ease the process of claiming funds by adopting digital signatures and authentication, and creating visibility of loan offers, and low-interest rates. These interventions have the potential to increase competition and affordability and may also reduce the need for multiple partnerships for sharing of data. For instance, the Udyam Portal can be considered a good practice to be followed for forming a digital ecosystem in India for greening the MSME sector. Digitalization and the development of a reliable database would also encourage the framing of monitoring & reporting frameworks that could further be used to encourage MSMEs to report on efforts related to LCT adopted from existing sustainability reporting tools. For instance, meter or monitoring of energy and fuel consumption could be tracked through data being generated through digitalization.

Mobilizing international climate finance

Given their unorganized nature and lack of awareness, the credit gap in financing the transition in MSMEs is a significant challenge through domestic sources alone. International climate finance sources will need to be mobilized in order to meet the financial needs of adopting cleaner and energy-efficient technologies. As a developing country, India will need the support of developed nations to provide financial resources to assist developing country Parties in implementing the objectives of the UNFCCC. Market mechanisms under Article 6 of the Paris Agreement could be a significant tool to

channel these funds. Be it voluntary or under compliance-based mechanisms, mobilization of finance through Article 6 would contribute toward meeting India's NDCs. Bilateral partnerships under Article 6.2 such as collaborations under Japan's Joint Crediting Mechanism or voluntary initiatives under Article 6.4 for engaging private sector players would be some of the notable methods to mobilize international climate finance.

Chapter ten

Limitations of the Study

10. Limitations of the Study

The Covid 19 pandemic limited the study from arranging stakeholder engagements at regular intervals. Interactions with stakeholders were limited to a roundtable discussion with 9 stakeholders from various concerned ministries, financing institutions, and private and private sector institutions. The barriers and recommendations to the study were derived from these interactions with the sector experts. However, the number of these engagements was a major limitation of the study.

The pandemic also limited the scope of conducting primary fieldwork, especially for strengthening the case studies of Gujarat and Maharashtra. Due to this, the research questions were mostly fulfilled through secondary literature sources.

The centre-state linkage study was mainly carried out through the lens of the identified central policy and hence the state policy side was overlooked. As a result, there are some instances where the findings are lopsided as the scope of convergence from the state policy side has not been analysed.

Chapter eleven

Conclusion

11. Conclusion

Achieving India's NDCs will require the full force of the industries to transition towards low-carbon pathways. A subset of industries is India's sprawling MSME sector which absorbs 20 to 25 percent of the energy consumption by large industries. The unorganized and informal nature of the sector lends itself to various challenges for MSME stakeholders to transition to energy-efficient technologies and non-fossil fuel-based energy sources. Climate action in the sector involves high initial capital investments in renewable energy and technology replacements for energy-efficient measures and MSMEs often lack technical expertise and are unaware of recent advancements and existing financial assistance instruments. Despite these barriers, the opportunities for adopting a low-carbon pathway in the sector are immense for businesses of all sizes, and policy interventions over the past years have shown encouraging trends toward promoting and incentivizing the shift to a low-carbon energy system. Financing this transition will require both domestic and international sources of finance in order to meet the needs of adopting cleaner and energy-efficient technologies. Promoting the involvement of MSME stakeholders in voluntary or compliance-based market mechanisms will not only support financing the technological transition through international climate finance but also contribute to meeting India's NDCs. A strong regulatory push to incorporate the various financial mechanisms, capacity-building initiatives, and easing access to market spaces specific to cleaner, more efficient energy sources would support and guide MSMEs towards the sector's LCT. Centre and states need to be aligned with respect to their policy interventions in order to complement each other in holistically supporting MSMEs. As illustrated through the case studies of Gujarat and Maharashtra, MSMEs in the different states have their distinct localized requirements and strategies with respect to financing LCT. It is critical that this complex web of financial assistance instruments is not in conflict with the operations of each other. Systemic reforms like digitalization and aggregated databases would significantly benefit organizing the sector and generating reliable data sources which would lead to addressing several barriers and support the better planning and sustainability of initiatives related to LCT. Transforming the MSME sector to an energy-efficient and non-fossil fuel-based system could potentially conserve energy use equivalent to 50 million metric tonnes of oil used per year.

Chapter twelve

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Chapter thirteen

Annexure

Annexure 1: Categorization of MSMEs in India

| Criteria | Manufacturing | | Service | |
|----------|-----------------------------------|---|-----------------------------------|--|
| | Turnover | Investment | Turnover | Investment |
| Micro | INR 50 million (USD 0.6 million) | Less than INR 2.5 million (USD 0.03 million) | INR 50 million (USD 0.6 million) | Less than INR 1 million (USD 0.01 million) |
| Small | INR 500 million (USD 6.5 million) | More than INR 2.5 million (USD 0.03 million) but less than INR 50 crore (USD 0.6 million) | INR 500 million (USD 6.5 million) | More than INR 1 million (USD 0.01 million) but less than INR 20 million (USD 0.26 million) |
| Medium | INR 2.5 billion (USD 32 million) | More than INR 50 million (USD 0.6 million), but less than INR 100 million (USD 1.3 million) | INR 2.5 billion (USD 32 million) | More than INR 20 million (USD 0.26 million) but does not exceed INR 50 million (USD 0.6 million) |

Source: Based on GOI (2006) and GOI (2020); Exchange Rate based on 12 May 2022

Annexure 2: Stakeholder consultations

Key Stakeholders:

1. **Ms. Ruchika Drall**, Deputy Secretary, MOEFCC
2. **Mr. Girja Shankar**, General Manager, Energy Efficiency Services Limited (EESL)
3. **Mr. Rajiv Kumar**, General Manager, SIDBI
4. **Mr. Debajit Das**, National Project Coordinator, United Nations Industrial Development Organization (UNIDO)
5. **Mr. Milind Chittawar**, CEO, SEE-Tech Solutions, Maharashtra
6. **Mr. Jitendra Popatlal Vakharia**, President, South Gujarat Textile Processors Association
7. **Dr. Manish Shrivastava**, Assistant Professor, TERI- School of Advanced Studies
8. **Mr. Manish Soni**, Director, Management Consulting – Clean Energy, PricewaterhouseCoopers Private Limited
9. **Mr. Rohit Kumar**, Vice President Sales and Marketing, EKI Energy Services Limited

Annexure 3: Key roles of major Institutions towards LCT in MSMEs

| Institute | Key Role for MSMEs transition to low carbon |
|---|---|
| CENTRAL GOVERNMENT | |
| Ministry of MSME | MoMSME supports state initiatives to promote the growth and development of MSMEs by enhancing their competitiveness in the changing environment. It also promotes adaptation to quality tools and energy-efficient manufacturing. |
| Development Commissioner for MSME | The Additional Secretary and Development Commissioner heads the MSME Development Organization and assists in formulating, coordinating, implementing, and monitoring policies and programs for the development of MSMEs. It provides facilities for quality improvement and infrastructure and increasing access to credit while also providing techno-economic and technology upgradation consultancy. |
| Climate Change Finance Unit | The CCFU within the Department of Economic Affairs of the Ministry of Finance serves as the nodal point on all climate change funding issues. It offers inputs to the designing, operationalization and working of the Green Climate Fund. It also prepares briefs and position papers for GOIs' position on Climate Change Financing. |
| National Clean Energy Fund | The National Clean Energy Fund was established in 2010-11 with the help of carbon tax (clean energy cess) to fund research and innovate projects in clean energy technology by public and private sector entities up to 40% of the total project cost. Assistance can be provided in the form of a loan or viability gap funds. |
| National Small Industries Corporation | National Small Industries Corporation is a government-certified enterprise under MoMSME and works to promote, assist and support the growth of MSMEs. It has also established a Training and Incubation Center. It assists MSMEs with technological support, thus improving MSMEs' efficiency, profits and productivity and further supporting in their sustainable growth |
| INTERNATIONAL INSTITUTIONS | |
| Global Environment Facility (GEF) | GEF aims to address the world's environmental issues and is the largest multilateral trust fund dedicated to the implementation of environment treaties. It finances energy efficiency at MSMEs while also increasing demand for green and sustainable investments. |
| The World Bank | The World Bank Group is the world's largest source of funding and knowledge for developing countries. It improves MSMEs' access to finance and unlock sources of capital while also implementing support initiatives relating to development and sustainability of environment. It also advocates for MSME finance through participating in G20 events. |
| Asian Development Bank | The Asian Development Bank (ADB) was founded in the early 1960s with the goal of fostering economic growth and collaboration in one of the world's poorest regions. It assists firms and industries (including MSMEs) to adopt upgraded technology to enhance productivity and provides credit to its members thus promoting social, economic, and sustainable development |
| GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) | GIZ envisions a future worth living around the world which provides tailor-made, cost-efficient, and effective services for sustainable development. GIZ supports MSMEs in areas such as technology transfer, resource efficiency and sustainable management. It also supports institutions that support economic development and enable innovation services for MSMEs |
| Multilateral and Bilateral Institutions | Multilateral and Bilateral Institutions play a crucial role in supporting MSMEs and improving SMEs' access to finance and finding innovative solutions to unlock sources of capital. They also assist MSMEs with technological upgradation, resource efficiency and sustainable management. |
| Green Climate Fund | The Green Climate Fund (GCF) is a legally independent entity that promotes all different models under climate change. It was established to limit or reduce GHG emissions in developing countries by 194 governments. Through the MSME Pilot Programme, GCF aims to provide financing for MSMEs at all stages of growth. It also promotes a paradigm shift towards low carbon emissions and climate-resilient development |

| | |
|-----------------------|--|
| Clean Technology Fund | The Clean Technology Fund (CTF) key objective is promoting scaled-up financing of Low Carbon Technologies (LCTs) for deployment, demonstration and transfer with a significant transfer for savings of GHG emissions. CTF provides incentives for the demonstration of low-carbon development and mitigation of GHG emissions through public and private sector investments. It also plays a role in scaling up development and accelerating the diffusion and transfer of clean technologies. |
|-----------------------|--|

PRIVATE AND NON-GOVERNMENT ACTORS

| | |
|---|--|
| Public and Private Sector Banks | Indian banking sectors have started taking various initiatives under its green banking approach. The public sector banks have taken more green banking initiatives as compared to private sector banks. They play a crucial role in green financing and assisting MSMEs to recognize how Green Transition can strengthen their financial performance, lower operational risks and improve operating efficiency. |
| Government backed Non-Banking Financial Company (NBFCs) | The NBFCs include investment banks, mortgage lenders, money market funds, insurance companies, hedge funds, private equity funds, and P2P lenders for development of industries. They help MSMEs in capital formation and aid to increase the capital stock of a company by providing long term credit. It is also involved in capacity building programs and initiates awareness programmes in various aspects. |
| NGOs and Civil Society Organizations | The objectives of NGOs and Civil Society provide consultations, and capacity building but have no role in direct financing. These provide consultations and work as an advisory body involved in capacity building programs and awareness drives. |

STATE AND REGIONAL GOVERNMENT

| | |
|------------------------------------|---|
| Department of Industries | The Department of Industries is a nodal promotional agency to plan, promote and develop industries and development of industries activities in each state. It is responsible for comprehensive industrial development thereby generating employment while also focusing on attaining a balanced regional and sustainable development. It also provides financial assistance in the form of grants, schemes, incentives etc. |
| District Industries Centres (DICs) | The primary function and objective of the District Industries Centres (DICs) is the supervision and control of District Level functionaries, i.e., the District Industries Centres in the implementation of the various schemes and programs of the Department. It facilitates the creation of common infrastructure facilities and implementation of quality control policies. |

NATIONAL INSTITUTIONS

| | |
|-----------------------------------|--|
| SIDBI | SIDBI was set up in 1990 under a special act of the parliament and plays a crucial role to facilitate and strengthen the flow of loans to MSMEs, as well as alleviate financial and developmental gaps in the MSME ecosystem. It has been promoting sustainable growth of MSMEs through a series of schemes which not only provide adequate and affordable energy efficiency/green finance but also enhances awareness of benefits of climate control among MSME clusters. Its focused lending scheme promotes investment in clean production and energy efficient technologies. |
| Bureau Of Energy Efficiency (BEE) | BEE was set up in 2002 under the Energy Conservation Act, 2001 with the aim of assisting in developing policies and reducing the energy intensity of the Indian Economy. Its flagship scheme "National Programme on Energy Efficiency and Technology Upgradation of MSMEs aims at promoting Energy Conservation. Due to continuous efforts of the bureau, MSMEs in India have started to shift from a traditional approach to energy efficiency, zero waste, and reduced carbon emissions. |
| NABARD | NABARD came into existence on 12 July 1982 by transferring the agricultural credit functions of RBI and refinance functions of the then Agricultural Refinance and Development Corporation (ARDC). The main objective of NABARD is to promote sustainable and equitable agriculture and rural development through participative financial and non-financial interventions, innovations, technology and institutional development for securing prosperity of the MSME sector |

Annexure 4: Nature of Assistance for National schemes and programmes

| Central Schemes | Nature of Assistance |
|---|---|
| National programme on Energy Efficiency and Technology Up gradation of SMEs | Implementation of 100 energy efficient technology demonstrations in 5 energy intensive clusters with provisions of back ended subsidy of 50% of the total cost of the technology per unit subject to a max of Rs 10 Lakhs. Information dissemination and capacity building workshops for SME unit owner across the country to disseminate the results in terms of energy savings achieved through these technology demonstration projects for their widespread replication. |
| Raising and Accelerating MSME Performance Scheme | NA |
| 4E (End to End Energy Efficiency) Scheme | Assistance of up to 90% of the Project cost with minimum loan amount of 10 lakh and maximum loan amount not to exceed 150 lakh per eligible borrower under this scheme. The repayment period including initial moratorium period of up to 6 months, shall not be more than 36 months for loans up to 50 lakh and 60 months for loans beyond 50 lakhs. Eligible loan amounts should not exceed one-fifth of the total turnover of the applicant MSME unit. Minimum promoter's contribution of 10% of the project cost. |
| MSE Cluster Development Programme | Assistance of up to 80% of the maximum Project cost of Rs. 30 crores for the creation of "tangible assets" and assistance of up to 70% of the maximum project cost of Rs. 15 crores for infrastructural development ⁶⁰ |
| Credit Guarantee Scheme for Micro & Small Enterprises | Credit guarantee for loans up to Rs. 2 crores, without collateral and third-party guarantee. Guarantee coverage ranges from 85% (Micro Enterprise up to Rs 5 lakhs) to 75% (others). 50% coverage is for retail activity. |
| MSME Sustainable (ZED) Certification | Financial assistance of up to Rs. 10,000 as a joining bonus for MSMEs. 80-60-50% subsidy on the cost of ZED certification for Micro, Small & Medium Enterprises. Additional subsidies of 10% for Women/SC/ST owned MSMEs OR MSMEs in NER/Himalayan/LWE/Island territories/aspirational districts. Additional subsidy of 5% for MSMEs which are also a part of the SFURTI or MSE - Cluster Development Programme (MSE-CDP) of the Ministry. Financial assistance of up to 75% of the total cost of Testing/Certification, with the maximum ceiling of subsidy being Rs. 50,000/-. Handholding support of up to Rs.2 lakhs for consultancy for all ZED-certified MSMEs. Support in technology upgradation for Zero Effect Solutions of up to 3 lakhs for all ZED certified MSMEs. |

Annexure 5: State instruments for financing low-carbon transition in Gujarat

| Year | Policy | Sub-schemes | Key Features | Eligibility/Eligible activities | Nature of Assistance |
|-----------|---|---|--|---|---|
| 2015-2019 | Gujarat Industrial Policy | Assistance for Energy and Water Conservation ³⁵ | This scheme promotes the conservation and efficient use of water and energy in industries and their respective industrial processes | The eligibility of this scheme extends to existing and new enterprises acting for saving in consumption of energy and water and must be registered under the 2006 MSME Development act The assistance cost of equipment will be eligible subject to the condition that saving in energy/water minimum by 10% of the average monthly consumption of the previous 12 months before the audit | Enterprises may receive up to 75% cost of energy/water audit conducted in a unit by a recognized institution/ consultant subject to a limit of INR 50,000 Enterprises will also be eligible for up to 25% of the cost of equipment subject to a maximum of INR 20 lakhs per project |
| 2020-2025 | Gujarat Industrial Policy ³⁶ | - | The policy aims to assist in developing Gujarat's MSMEs by focusing on key trust sectors, strengthening integrated value chains, innovation, and research. The policy also highlights the need to and promotes the adoption of cleaner and more sustainable practices and processes. | Aside from activities mentioned under specific schemes, the following activities are also encouraged under the Policy: A) Upgradation of existing Common effluent treatment plant (CETPs), common spray dryer, common multiple effect evaporator etc. B) Development of Green Estate C) Preparation of site master plan for relocation and retrofitting of existing pollution industrial units into Green Industrial Estates D) Common Boiler Project by SPV constituted by minimum 10 MSME's | A) Assistance provided at up to 40% of the project cost up to INR 50 crore. B) Assistance will be provided at 25% of project cost for set up/ relocation/ retrofitting of existing polluting industrial units into Green Industrial Estates up to INR 25 crore. C) Assistance of up to 75% of cost of development of the plan up to INR 80 lakhs D) Assistance at 35% (in case of solid fuel) and 50% (in case of cleaner fuel) of the fixed installation cost up to INR 2 crore |
| | | Scheme for assistance for Environment Protection Measures ³⁷ | With the intention of facilitating industrial growth without harming the environment, the scheme provides assistance to encourage compliance with environmental norms and standards. | | |
| | | A) Assistance in environmental management | This scheme promotes and assists in the implementation of cleaner production technology in place of existing processes and any other environmental management project with the use of clean, efficient, and innovative pollution control equipment | Implementation of cleaner production technology in place of existing processes | Assistance of up to 35% of the cost of plant and machinery up to 35 Lakhs during the tenure of the scheme for MSMEs Assistance of up to 10% of the cost of plant and machinery up to 35 Lakhs during the tenure of the scheme for large industries |
| | | | | Any other environment management project with the use of clean, efficient, and innovative pollution control equipment | Same as above |

35 <https://ic.gujarat.gov.in/assistance-for-saving-in-consumption-of-energy.aspx>

36 <https://msmec.gujarat.gov.in/uploads/pdf/SpolicysA41YKryli-GN0zIhaQvD57QDUa5S2Uu.pdf>

37 https://ic.gujarat.gov.in/documents/commondoc/2020/7-GR_02092020.pdf

| | | | | | |
|--|--|--|--|---|---|
| | | B) Assistance in encouraging "Green Practices and environmental audit to MSMEs | This sub-scheme aims to encourage the adoption of green practices, reporting on environmental standards, adoption of cleaner technology and upgrading to sustainable infrastructure | Assistance for periodic environmental audits side from ones mandated by the provisions of Acts and Rules or as directed by the Court of Law | Assistance of up to 75% of the fees of auditing services of up to 50,000 INR per audit, whichever is less, once during the operative period of the scheme |
| | | | | Assistance for installing online Continuous Stack Emission Monitoring system (CSEMS), online effluent quality monitoring system with connectivity to Gujarat Pollution Control Board (GPCB)/ Common effluent treatment plant (CETP) projects | Assistance of up to 25% of the system costs or 5 Lakhs, whichever is less, once during the operative period of the scheme |
| | | | | Assistance to industrial building with more than 2000 sq. m of built-up area which has obtained green ratings under the Indian Green Building Council (IGBC/LEED) or GRIHA | Assistance of up to 50% of consulting charges or 2.5 Lakhs, whichever is less |
| | | | | Assistance for setting up of Environmental Management System which includes the setting up of an environmental management laboratory | Assistance of up to 50% of the cost of equipment up to 10 Lakhs, once during the operative period of the scheme |
| | | | | Assistance for the purchase of new equipment or systems related to safety, occupational health or environmental compliances for common use of industries in a cluster of minimum 10 units | Assistance of up to 35% of cost of equipment or system with a limit of 35 Lakhs per cluster |
| | | | | Assistance for industries practicing at least 50% waste water recovery through Zero liquid discharge as certified by GCPB | Assistance in the form of up to 50% one-time capital subsidy on relevant equipment/system or 75 Lakhs, whichever is less, once during the operative period of the scheme |
| | | Scheme for assistance to Micro, Small and Medium Enterprise ³⁸ | This scheme promotes the adoption of various interventions for the development of MSMEs in the state. Among the wide range of sub-schemes envisioned in this scheme, the following are some of the tools which can be used for LCTs in the sector. | | |
| | | A) Financial Support to MSMEs in ZED Certification (Sub-Scheme no. 4) | This sub-scheme promotes the adoption of ZED manufacturing practices and assessments within MSMEs. It lays out activities that build an enterprise's ecosystem and capacitate its resources for implementing ZED standards. | Activities suggested under this scheme include development of a ZED ecosystem within MSMEs, promotes the adoption of quality tools and systems and energy efficient manufacturing, encouraging upgradation in products and processes, and build capacity in the area of ZED manufacturing and certification. | The enterprise will be eligible for subsidy at 50% of all charges on the amount after deducting the assistance received from GoI for ZED certification, up to a maximum amount of 50,000 INR |
| | | B) Assistance for Energy and Water Conservation (Sub-Scheme no. 8) | This sub-scheme specifically encourages and assists in the conservation of energy and water resources within the MSME enterprises. | Assistance under this sub-scheme extends its eligibility to existing and new enterprise acting for saving in consumption of energy and water. Assistance regarding the cost of equipment will be eligible subject to the condition of the enterprise saving in energy/water by minimum of 10% average monthly consumption over the previous 12 months before audit. | Assistance will be provided in the form of providing 75% cost of energy/water audit as conducted by a recognized institution/consultant of up to a maximum 50,000 INR for each will be reimbursed once during the operative period of the scheme. One-time assistance of 25% of cost of equipment recommended by the auditing authority of up to a maximum 20 Lakhs eligible during the operative period of the scheme. |

38 https://ic.gujarat.gov.in/documents/commondoc/2020/3-GR_02092020.pdf

| | | | | | |
|-----------|--|---|--|--|--|
| 2021-2025 | Gujarat Solar Power Policy ³⁹ | - | <p>This policy aims to encourage MSMEs to reduce electricity cost and further eases the process of utilizing rooftop solar power in MSMEs</p> <p>The policy increases the power cycle for the calculation of the consumption from 15 minutes to 7 AM-6 PM.</p> <p>The price of surplus solar power which can be purchased from MSMEs has been increased from INR 1.75/unit to INR 2.25/unit.</p> | <p>This scheme extends to MSMEs in the State- any individual, company, body corporate, or association for setting up Solar Power Systems (SPS) for the purpose of captive use or for selling electricity under Renewable Energy Certificate (REC) mechanisms</p> | <p>The new policy will offer incentives to MSMEs at 35% of the cost of plant and machinery and to large units at 10% for the implementation of cleaner production technology in place of the existing process.</p> <p>The scheme offers assistance with up to 25% of the project cost up to ₹250 million (~\$3.34 million) for setting up, relocation, or retrofitting of existing polluting industrial units into green industrial estates.</p> |
|-----------|--|---|--|--|--|

39 <https://suryagujarat.govnl.in/Gujarat-Solar-Power-Policy-2021.pdf>

Annexure 6: State instruments for financing low-carbon transition in Maharashtra

| Policy / Year | Sub-Schemes | Key Features | Eligibility | Nature of Assistance |
|-------------------------------|---|---|---|--|
| State Industrial Policy, 2019 | Chief Ministers Employment Generation Program (CMEGP) | The state aims to enhance institutional capacity for incorporating green technologies, like the use of biofuels, in certain MSME clusters. | N/A | Provides special fiscal support to the MSMEs wherein INR 3000 is provided to the MSME workers for "greening" initiatives in the clusters. |
| | The Package Incentive Scheme (PSI) | Subsidies on SGST payments. | Units under Group 'A' that are expanding are not included by this classification and hence do not qualify for the incentives. | The Package Incentive Scheme (PSI-2019) provides incentives to MSMEs in the form of subsidies on SGST payments, power subsidies focusing on green energy, interest subsidies, stamp duty, and electricity duty exemptions. |
| | Interest subsidy | This subsidy is based on interest paid to banks and public financial institutions on term loans used to acquire fixed assets. | The new units formed after 2019 are eligible for this subsidy. | The amount of subsidy is limited to the lesser of the interest rate (net of any other interest subsidy) that is usually 5%. Every year, the amount of interest subsidy payable to the eligible unit will not exceed the amount of power bills during the relevant year. |
| | Industrial Promotion Subsidy (IPS) | A 100% incentive subsidy will be available and on the sale of qualified products, gross state GST is payable by unit. The state has been divided into different categories of 'talukas' based on the level of expansion and industrial development. A, B, C, D, D+, No-industry districts, and Naxal-affected areas are the various categories of talukas, in order of most industrially developed to the least. The Maximum Permissible Fixed Capital Investment lies in compliance with the MSME Act, 2006. | According to their taluka classification, new and expanding MSME units will be eligible for this incentive. | Units under Group 'B' can receive a maximum incentive of 30% of the Fixed Capital Investment (FCI). Similarly, the incentive for Group C units is 40%, for Group D it is 50%, for group D+ it is 60%, for Vidarbha, Marathwada, Ratnagiri, Sindhudurg and Dhule it is 80% and for No Industry District, it stands at a 100%. The eligibility period of these incentives is also provided- 7 years of Group B and C and 10 Years for Group D, D+, Vidarbha, Marathwada, Ratnagiri, Sindhudurg and Dhule as well as for No Industry Districts. |

Annexure 7: Centre-State policy linkages in Gujarat

| Parameter/s | Nationally Implemented Scheme | Sub-Parameter/ | Relevant Con- verging Policies/ Scheme | Convergence | Divergence | Implications and Future Scope |
|------------------------------|-------------------------------|---|---|---|--|---|
| Technological Advancement | BEE-SME Scheme | Back ended sub- sidy for promoting energy-efficient technology adoption | Gujarat Industrial Policy - Scheme for assistance for Environment Pro- tection Measures | Though not provided in the form of back-ended subsidies, the scheme offers assistance for the implementation of cleaner production technology in place of existing processes. The promotion of adopting cleaner tech- nology and upgrading to sustainability conver- ges with the BEE-SME scheme under the central authority. | Assistance is offered in the form of covering part of the cost of plant and machinery in the state scheme. The scheme does not provide back-ended subsidies for the adoption of energy-efficient techno- logies. | This can be considered a positive divergence as an MSME can access either back ended subsidies or capital investments for switching to energy-effi- cient technology. However, moving forward, both efforts under the central and state schemes could be interlinked to provide back-ended subsidies to MSMEs in order to ease the repayment process for the stakeholders |
| | | | Gujarat Solar Power Policy | Focusing on the purpose of captive use or for selling electricity under REC mechanisms, the state scheme aims to encourage MSMEs to reduce electricity cost and further eases the process of utilizing rooftop solar power in MSMEs. The objectives of the scheme intersect with the focus areas of the central policy con- verging in promoting energy efficiency | Assistance is covered in the form of incentives to MSMEs covering the part cost of plant and machinery. However, the state policy does not include back-ended subsidy assistance. | Elements of the state policy can be scaled up to be included in the central policy in order to encourage the implementation of cleaner production technology in place of the existing process focusing specifically on the adoption of solar energy solutions. |
| | | | Gujarat Industrial Policy - Scheme for assistance for Environment Protection Meas- ures - Assistance in environmental management | The state scheme pro- motes and assists in the implementation of cleaner production technology in place of existing processes and any other environ- mental management project with the use of clean, efficient, and innovative pollution control equipment which is in line with the central policy focus on promoting RE and clean technologies in the industrial processes | Assistance is provided in the form of loans rather than back ended subsidies. | Though the objectives of the state and central schemes align, both deploy separate tools to support the shift to cleaner techno- logies. This allows for more diversified options for the MSME stakeholder. |

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| | RAMP Scheme | Providing access to high-end technology resulting in the digital and technological transformation of MSMEs | Gujarat Industrial Policy - Scheme for assistance for Environment Protection Measures (i) Assistance in environmental management (ii) Assistance in encouraging "Green Practices and environmental audit to MSMEs" | The sub-schemes of the Scheme for assistance for Environment Protection Measures focus on the promotion and the adoption of cleaner technology solutions and the use of clean, efficient, and innovative pollution control equipment. This would lead to its direct convergence with the central RAMP Scheme's objective of greening the sector. The scheme also focuses on building or upgrading sustainable infrastructure. This converges with the objectives of the central scheme which also focuses on the technological transformation of the MSME Sector | The central scheme's focus on digital transformation in the MSME sector is a key aspect that is not addressed in the state policy. This forms a slight divergence from the central policy which specifically calls for digital transformation as a result of access to hi-end technologies. | Digitalization is a key aspect missing in the state's policy directives and could be a significant tool to increase transparency, accountability, and monitoring within the sector. It would assist in generating better quality data which has been a major challenge in the sector due to its unorganized nature. Accurate data generation would lead to more relevant and impactful solutions in line with the policy objectives. Where the state lacks this element, MSMEs can benefit from accessing the central schemes for this initiative. |
| | | | Gujarat Solar Power Policy | The objectives of Gujarat's solar power policy would fall in convergence with the RAMP Scheme in promoting the adoption of cleaner technology for greening the MSME sector. Focusing on RE technology, especially solar, would be vital to meet the energy requirements of the sector and contribute to the technological transformation required to transition into becoming a low-carbon emitting sector | The state does miss out on promoting the digital transformation of the sector if compared to the new central policy. The focus solely lies on technological advancement and implementation of cleaner production technology in place of the existing process. | Promoting the digital transformation of the sector parallel to the significant technological transformation which is already underway, will support the monitoring of existing processes and potentially reduce emissions in the process. While it might not be available at the state level, stakeholders can engage with the central scheme to avail assistance for the inclusion of digitalizing technology. |
| | | | Gujarat Industrial Policy- Scheme for assistance to Micro, Small and Medium Enterprise | Sub-scheme of the state industrial policy encourages the adoption of cleaner technology and upgrading to energy-efficient products and processes which is in line with the focus of the central RAMP Scheme. The sub-schemes focus on improving energy efficiency, promoting the adoption of quality tools and systems, and conservation of water and energy. | The scheme and its sub-schemes predominantly focus on promoting the adoption of cleaner more efficient technology. Without a focus on digitalization, the state schemes partially diverge in their goals from the central RAMP scheme. | The greening component of the central RAMP scheme is limited to access to technology. The scope could be broadened to include capacity building parallel to the adoption of newer technology and systems. The state schemes include an element of capacity building to build an enterprise's ecosystem and capacitate its resources. This is a key gap that can be met by the state scheme. |

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| | | | Gujarat Industrial Policy - Scheme for assistance for Environment Protection Measures | With both central and state policy focusing on the promotion and adoption of energy-efficient technology and processes, the two align themselves with each other's objectives. Similar to the central scheme, the state policy also promotes investments for the implementation of cleaner production technology in place of existing processes. This aims to enhance energy efficiency, and reduce emissions | Nil | Though the objectives of the schemes are aligned, a more specific focus could be given to upgrading existing technology and systems in industrial plants through the central policy. While the state scheme promotes and assists in the implementation of cleaner production technology in place of existing processes, the central scheme does not have this as a specific objective and remains unclear about the technicalities such as eligibility and nature of assistance. Therefore, the convergence of these policies is merely superficial without regulatory guidelines from the RAMP Scheme. |
| | MSE Cluster Development Programme | Sustainable technology and infrastructural improvement, create/upgrade infrastructural facilities, promotion of green and sustainable manufacturing technology | Gujarat Industrial Policy - Scheme for assistance for Environment Protection Measures - Assistance in environmental management | The sub-schemes of the state policy align their objective directly with the central program, i.e., technological and infrastructural up-gradation and adoption of energy-efficient technology. Both also specifically focus on greening the manufacturing or production process cycle to reduce emissions early on. | The diverging factor here lies in the nature of assistance provided by both instruments. While the state provides focuses on plant development and machinery specifically, the central scheme aid in building overall tangible assets and infrastructural development | Similar to the central approach, the state scheme could also align itself with the cluster approach and develop the industrial estates in a sustainable and energy-efficient manner. |
| | 4E (End to End Energy Efficiency) Scheme | Implementing energy-efficiency measure on an end-to-end basis and promoting energy-savings | Gujarat Industrial Policy- Scheme for assistance to Micro, Small and Medium Enterprise (i) Assistance for Energy and Water Conservation (ii) Financial Support to MSMEs in ZED Certification | Both central and state schemes align in their aim to promote and adopt energy-efficient measures and promote energy-saving technology. The state scheme does this by specifically focusing on the production process and setting up environmental management systems to ensure establishing sustainable and green infrastructure development and practices. | Though the overall aim of the state and central schemes aligns themselves, the state scheme focuses mainly on the production phase of operations while the central scheme aims to implement its objectives on an end-to-end basis. This is where the state policy partially diverges from the direction paid out by the central 4E scheme | An overall lens would allow the state schemes to implement their objectives in a holistic and sustainable manner targeting the entire industrial process including the supply chain instead of only looking into the production phase. Emissions reduction needs to be kept in focus throughout the processes carried out by MSME sectors. This divergence can be considered to have negative implications at the state level for not including the entire supply chain process for promoting this parameter. |
| | MSME Sustainable (ZED) Certification | Support in technology up-gradation for Zero Effect Solutions | Gujarat Industrial Policy - Scheme for assistance to MSMEs - Financial Support to MSMEs in ZED Certification | Both Central and State schemes are aligned to the objective of providing MSMEs with financial assistance to upgrade or transition to technologies meeting ZED standards and cleaner manufacturing processes | Nil | Convergence of these instruments are significantly positive with respect to the state providing assistance in the form of subsidy of all charges after deducting the assistance received from Gol for ZED certification |

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| Capacity Building | BEE-SME Scheme | Information dissemination and capacity building | Gujarat Industrial Policy- Scheme for assistance to Micro, Small and Medium Enterprise (i) Financial Support to MSMEs in ZED Certification | This sub-scheme lays out activities that build an enterprise's ecosystem and capacitate its resources for implementing ZED standards. Capacity-building activities are an important objective of this scheme which is directly in line with the aims of the central policy. This forms a direct convergence between the two schemes. | While the central policy focuses on capacity building and information dissemination for energy savings through technology demonstrations, the state scheme only builds capacity for ZED manufacturing and certification. Though the wider aim of capacity building for cleaner practices is addressed, the focus areas remain divergent. | The scope of the state policy could be expanded not only look into the manufacturing part of the industrial process but the overall supply chain and the training and capacity building for achieving ZED standards could be achieved parallelly. Technological advancement needs to be adopted keeping in mind the capacities of the resources available. |
| | MSE Cluster Development Programme | Capacity building of MSEs and start-ups and improvement of skills and quality | Gujarat Industrial Policy- Scheme for assistance to Micro, Small and Medium Enterprise (i) Financial Support to MSMEs in ZED Certification | The priority areas of the two state and central schemes align with respect to building capacity in the sector and improving skills and quality in their respective focus areas. Both also focus on the production/ manufacturing process and technology and targets energy efficiency in this part of the supply chain. | Though the priority areas converge, there is a distinct divergence in eligibility for the two schemes. While the state policy includes all actors under the ambit of MSMEs, the central policy is limited to and focuses predominantly on MSEs and start-ups. Also, while the central policy focuses on overall capacity building without defined boundaries, the state policy specifically targets capacity building for ZED standards and certificates. | While the state can integrate an overall approach to target all parts of the industrial process, the central program could expand its boundaries to include all MSME participants accounting also for medium enterprises. Both leave out key elements that must be accounted for in order for more inclusive growth. |
| | MSME Sustainable (ZED) Certification | Public awareness for ZED products and standards | Gujarat Industrial Policy - Scheme for assistance to Micro, Small and Medium Enterprise - Financial Support to MSMEs in ZED Certification (Sub-Scheme no. 4) | Both Central and State schemes provide financial assistance to promote capacity-building activities to MSMEs in the area of ZED manufacturing and certification. Both have the broader aim of developing professionals as per ZED requirements. | The State scheme partially diverges from the central scheme by not including a public awareness element and only focusing on planned capacity building programmes in ZED products | While both schemes promote capacity-building activities for ZED certification and processes, an element of awareness building could be added to the state scheme in order to have a wider outreach for building demand in the sector for ZED certification at the micro level to reach more grassroots stakeholders. |
| Market Access | MSE Cluster Development Programme | Financial assistance in the form of grants for meeting project objectives and improving market access for MSEs | Nil | Nil | Though there are linkages with state policies with respect to promoting the adoption of cleaner technology, facilitating this through offering grants is a mechanism not explored by the state. No activities in the state schemes promote financial assistance for the improvement of market access in the sector. | Grants offer more long-term assistance as compared to other methods and could be used in the state to provide financial assistance to adopt cleaner technologies and address the need to improve market access for MSEs. However, despite this non-alignment, MSMEs can access the benefits from the central scheme. |

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| | RAMP Scheme | Focus on improving access to markets and credit, and addressing issues of delayed payments. | Nil | Nil | Gujarat's current state policies do not include aspects of improving access to markets and financial benefits. The state's sole focus remains predominantly on technological improvement. | The state needs to adopt more schemes that provide ease in access to finance for transitioning to low-carbon technologies. Stakeholders need to be capacitated and assisted in the logistical process of the transition to low-energy intensive systems. Access to markets and credit and the addressing of issues of delayed payments are ways in which the state schemes can develop to converge with the central schemes |
| | 4E (End to End Energy Efficiency) Scheme | Provide investment in clean production and energy-efficient clean technologies/production processes | Gujarat Industrial Policy- Scheme for assistance to Micro, Small and Medium Enterprise (i) Assistance for Energy and Water Conservation (ii) Financial Support to MSMEs in ZED Certification | The state scheme promotes and assists the adoption of cleaner technology by covering part of the costs of the projects, covering equipment costs, subsidies, etc. This forms a direct convergence with the objectives of the central policy which also focuses on providing investment opportunities for energy-efficient technologies. | Though the state scheme's main objectives are in line with the central policy, the application of the state scheme is limited to ZED standards and assistance subject to water and energy savings. It diverges from the ambit of the central policy by not being applicable to all processes and standards. | Promotion of ZED certification and energy and water conservation is significantly important in order to encourage sustainable practices, but the state must include financial assistance mechanisms applicable for all MSME participants even outside these focus areas so as to not limit the adoption of clean technology |
| | | | Gujarat Solar Power Policy | Both central and state schemes align in their aim to promote and adopt energy-efficient measures and promote energy-saving technology. | However, the state policy is limited to technology for solar RE and does not apply to the overall technological requirements of MSME sector and, thus, diverges from the scope of the central policy. | The scope of energy policy in the state of Gujarat needs to be expanded to provide investment opportunities across all technology options. Energy efficiency can be achieved through various means and technologies and financial assistance for encouraging investments need to come in for all energy-saving solutions, not just solar. |
| | Credit Guarantee Fund Scheme for Micro & Small Enterprises (CGTMSE) | Facilitating credit guarantee support for collateral-free/third-party guarantee-free loans | Nil | Nil | The state industrial policy of Gujarat does not include any provisions for providing credit guarantee or collateral free loans | Credit guarantee support is essential for addressing the risk involved in carrying out business in MSMEs. This is a significant tool that the state misses out on which could strongly promote ease of business |
| | MSME Sustainable (ZED) Certification | Promoting ideal ecosystem for ZED certification standards | Gujarat Industrial Policy - Scheme for assistance to Micro, Small and Medium Enterprise - Financial Support to MSMEs in ZED Certification (Sub-Scheme no. 4) | Both Central and State schemes encourage the development of ZED certification manufacturing processes and promote activities to increase demand for low carbon transition technologies including assisting MSMEs with soft costs. | Nil | The state scheme could also include soft costs of conducting audits and other consultation costs in order to further provide MSMEs ease of transitioning to Low carbon emitting systems. |

Annexure 8: Centre-State policy linkages in Maharashtra

As stated in the case study section, Maharashtra has one Industrial Policy that has been considered for analysing how the state-level policy either converges or diverges from the national schemes or policies. The following table illustrates these linkages and their implications.

| Parameter/s | Nationally Implemented Scheme | Sub-Parameter/ | Alignment | Convergence | Divergence | Implications and Future Scope |
|---------------------------|-------------------------------|--|---|---|--|--|
| Technological Advancement | BEE-SME Scheme | Back ended subsidy for promoting energy-efficient technology adoption | Gujarat Industrial Policy - Scheme for assistance for Environment Protection Measures | Though not provided in the form of back-ended subsidies, the scheme offers assistance for the implementation of cleaner production technology in place of existing processes. The promotion of adopting cleaner technology and upgrading to sustainability converges with the BEE-SME scheme under the central authority. | Assistance is offered in the form of covering part of the cost of plant and machinery in the state scheme. The scheme does not provide back-ended subsidies for the adoption of energy-efficient technologies. | This can be considered a positive divergence as an MSME can access either back ended subsidies or capital investments for switching to energy-efficient technology. However, moving forward, both efforts under the central and state schemes could be interlinked to provide back-ended subsidies to MSMEs in order to ease the repayment process for the stakeholders |
| | RAMP Scheme | Providing access to high-end technology resulting in the digital and technological transformation of MSMEs | Nil | The state of Maharashtra is a part of the RAMP scheme and initiate support to the MSME clusters in providing technological solutions. For example, the state provides subsidies towards usage of biofuel as alternative sources of energy in emission intensive MSME Clusters. However, there are minimal provisions of access to high end technologies in the state. | Nil | At present, the main challenge for the MSME clusters in the state is to recover from the economic ramifications of the pandemic and shoot up the production as much as possible. Keeping that in mind, RAMP scheme provides incentives towards usage of biofuel that enhances overall production and is cleaner than the existing fuels. Hence, this partial alignment is positive as research for high end technology like green hydrogen is at a nascent stage across India and hence does not add a significant value to the cause. |

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| | 4E (End to End Energy Efficiency) Scheme | Implementing energy-efficiency measure on an end-to-end basis and promoting energy-savings | Nil | Nil | The state industrial policy does not include any provisions of solar energy uptake in the MSME clusters. | The lack of alignment is negative to the MSME clusters of the state. Inclusion of renewable energy across the MSME clusters is lacking considerably in the state. Moreover, India now stands committed to reducing emissions intensity of its GDP by 45 per cent by 2030, from 2005 level, and achieving about 50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030. Hence, mainstreaming renewable energy across the MSME clusters in the state become a matter of utmost priority. |
| | MSE Cluster Development Programme | Sustainable technology and infrastructural improvement, create/upgrade infrastructural facilities, promotion of green and sustainable manufacturing technology | Nil | The state industrial policy is in line with this central policy. The state has introduced a green bio-fuel policy in which aims towards sustainable technology and alternative technology. However, there is minimal work on promotion of energy efficiency for MSME clusters in the state. | Nil | The lack of alignment is negative to the MSME clusters of the state. There is evidence across Maharashtra where cluster owners are not aware of the energy efficient solutions and its associated schemes which will enhance their overall productivity. |
| | MSME Sustainable (ZED) Certification | Support in technology up-gradation for Zero Effect Solutions | Nil | Nil | There is no provision for technology upgradation for Zero effect solutions in the industrial policy. | The lack of alignment does not have a major implication to the MSME clusters of the state. Inclusion of zero effect solution is at a nascent stage across India which will require deployment of significant finance and capacity building which is a challenge considering Indian economy recovering from the pandemic. |
| Capacity Building | BEE-SME Scheme | Information dissemination. | Nil | Nil | There is not much progress on enhancing capacity building in the state for LCTs in the MSME sector. The state government has announced capacity building for enhancing institutional arrangement of LCTs but nothing has been implemented so far. | The lack of alignment is negative to the MSME clusters of the state as capacity building for enhancing energy efficiency across the clusters is lacking significantly in the state. Also, the discourse of lack of skill for a transition especially at the grassroot must be solved with appropriate trainings and skill development workshops. |

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| | MSE Cluster Development Programme | Capacity building of MSEs and start-ups and improvement of skills and quality | Nil | Nil | The state industrial policy does not have provisions for skill development for workers from the MSME sector in the state. | The lack of alignment is negative to the MSME clusters of the state as capacity building for enhancing energy efficiency across the clusters is lacking significantly in the state. Also, the discourse of lack of skill for a transition especially at the grassroots must be solved with appropriate trainings and skill development workshops. |
| | MSME Sustainable (ZED) Certification | Public awareness for ZED products and standards | Nil | Nil | There is no provision for capacity building for public awareness of ZED products and standards. | The lack of alignment is neutral to the MSME clusters of the state. ZED products and standards are emerging ideas across the nation which are cost intensive and will require time to deploy. |
| Credit and Market Access | MSE Cluster Development Programme | Financial assistance in the form of grants for meeting project objectives and improving market access for MSEs | Nil | Nil | The state industrial policy does not converge with this central policy as there is no provision for improving market access for MSMEs in Maharashtra. | The lack of alignment has negative implications on the MSME clusters of the state. Market access has direct linkages with the investment especially from private sources which will be beneficial to fulfil major long-term ambition of climate action across the MSME clusters of the state like technology alteration, zero effect products etc. |
| | RAMP Scheme | Focus on improving access to markets and credit and addressing issues of delayed payments. | Nil | Nil | The state industrial policy does not converge with this central policy as there is no provision for improving market access and issues of delayed payments for MSMEs in Maharashtra. | The lack of alignment has negative implications on the MSME clusters of the state. Market access has direct linkages with the investment especially from private sources which will be beneficial to fulfil major long-term ambition of climate action across the MSME clusters of the state like technology alteration, zero effect products etc. Furthermore, delayed payment has led to a cash strapped situation for many MSME clusters in the state. |
| | 4E (End to End Energy Efficiency) Scheme | Focus on provision for investment in clean production and energy efficient clean technologies/production processes | Nil | Nil | The state industrial policy does not converge with this central policy as there is no provision for investment in clean production and energy efficient clean technologies/production processes across the MSME clusters | The lack of alignment has a negative implication on the MSME clusters of the state. There is a scope to enhance markets and develop state sub-policies that aims towards Low Carbon Transition pathways for the MSME sector in the state. |

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| Credit Guarantee Fund Scheme for Micro & Small Enterprises (CGTMSE) | Facilitating credit guarantee support for collateral-free/third-party guarantee-free loans | Nil | Nil | There is no such provision of facilitating credit guarantee support for collateral-free/third party guarantee-free loans. | The lack of alignment has a negative implication on the MSME clusters of the state. Collateral burden often hinders with the deployment of energy efficient technologies and alternatives at the grass-root level. Credit guarantee support helps initial investment for the MSME clusters of the state. |
| MSME Sustainable (ZED) Certification | Promoting ideal ecosystem for ZED certification standards | Nil | Nil | There is no provision for market access through promoting ideal ecosystems for ZED certification standards. | The lack of alignment is neutral to the MSME clusters of the state. ZED products and standards are emerging ideas across the nation which are cost intensive and will require time to deploy. |

