CII-ITC Centre of Excellence for Sustainable Development

Climate Action Charter

Confederation of Indian Industry

Climate Action Charter Report

Bagru and Sitapura Industrial Cluster

Published by Confederation of Indian Industry (CII), The Mantosh Sondhi Centre; 23, Institutional Area, Lodi Road, New Delhi 110003, India, Tel: +91-11-45771000; Email: info@cii.in; Web: www.cii.in

CII-ITC Centre of Excellence for Sustainable Development

Climate Action Charter

Confederation of Indian Industry

Content

Acronyms

BEE	Bureau of Energy Efficiency
CCAC	CII Climate Action Charter
CII-CESD	Centre of Excellence for Sustainable Development
COP	Conference of the Parties
DCs	Designated Consumers
GEAR	Garment Export Association of Rajasthan
GEF	Global Environment Facility
IPCC	Intergovernmental Panel on Climate Change
LT-LEDS	Long Term Low Emissions Development Strategy
MSME	Micro, Small & Medium Enterprises
NAPCC	National Action Plan on Climate Change
NSIC	National Small Industries Corporation
PAT	Perform, Achieve, and Trade
RIICO	Rajasthan State Industrial Development and Investment Corporation
RSAPCC	Rajasthan State Action Plan on Climate Change
RSIC	Rajasthan Small Industries Corporation
SIDBI	Small Industries Development Bank of India
SME	Small and medium-sized enterprises
TCFD	Task Force on Climate-related Financial Disclosures
UNIDO	United Nations Industrial Development Organization
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank
WMO	World Meteorological Organization

1. Executive Summary

The primary goal of CII Climate Action Charter (CCAC) is to provide a platform for Indian businesses to map Climate Change as a material risk across value chains and develop long-term actions to build resilience. This platform will facilitate businesses to lead their sectoral climate actions and showcase best practices to address climate risks.

The CII Climate Action Charter (CCAC) has been designed to provide impetus for collective action by Indian businesses to drive solutions for a just, equitable and resilient transition thus ensuring long-term competitiveness. CCAC aims to assist organizations in assessing risk and creating resilient action plans in alignment with both national and global policies designed to combat climate change and its impact. The CCAC aligns its objectives with the global climate goals set by the Paris Climate Accord, which aims to limit global temperature change to below 2°C. CCAC is based on the four principles which will support businesses in addressing climate change risks in their operations. The principles are based on four critical areas.

GHG Emission Reduction
Develop measurable short term (5 years) and long-term targets for GHG emission reduction.

Building Resilience
Build resilience for future climate change impacts.

Transition in Value Chain
Support value chain in climate transition.

Mobilizing Green Finance
Accelerate green finance for climate transition.

This report provides analysis of carbon emissions of two clusters in Rajasthan, the Bagru Light Engineering Cluster, and the Sitapura Textile Cluster. This study was carried out in three steps.

Step 1. Identifying clusters and conducting awareness sessions
Step 2. Introduction to the CCAC Toolkit, and Data Collection
Step 3. Analysis and Reporting

This report provides a road map and a set of recommendations to assist these clusters make the transition towards climate-friendly practices. Future CCAC initiatives can be built on the knowledge gained from this study. The purpose of CCAC is to connect like-minded businesses and owners to establish a robust value chain. CCAC aims to support the exchange of best practices in pertinent industries to address climate risks and help members of the network achieve their individual climate action goals.

2. Climate Change and its Effects

Climate change is a significant global challenge that is affecting the planet's ecosystems and the lives of people. The primary contributors to it are human activities like the burning of fossil fuels, deforestation, and industrial processes, which result in an increase in greenhouse gas (GHG) emissions, primarily carbon dioxide. The rise in global temperatures brought on by the increase in GHG emissions has several effects, including changes in precipitation patterns, extreme weather events, and rise in sea levels. The concentration of atmospheric carbon dioxide is at its highest level in more than three million years, according to the World Meteorological Organisation (WMO) and Intergovernmental Panel on Climate Change (IPCC) 2022 report, and the average global temperature has risen by 1.1°C since pre-industrial times.

Reducing GHG emissions and moving towards a low-carbon economy is essential to limiting the most severe impacts of climate change. Globally, governments and organizations are establishing aggressive goals for emissions reduction, such as the Paris Climate Agreement's target of 1.5°C and a limit of well below 2°C. All sectors must work together to act and move towards sustainable practices that can cut emissions and boost resilience to climate risks.

The last 6 years topped the list of hottest years ever recorded; the 20th century saw an increase in the Earth's average temperature by 1°F. This is believed to be the fastest rise in a thousand years.

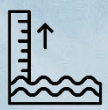
The World Health Organization estimates that between 2030 and 2050, climate change may cause approximately 250,000 additional deaths per year due to malnutrition, malaria, diarrhea, and extreme heat.

It is estimated that if action is not taken to address the carbon emissions, climate change could cost about 5 to 20% of the annual global GDP.

More than 60% of India's agriculture is dependent on rain and majority of the population are dependent on the agriculture sector for survival. This makes India more vulnerable to climate change.

It is estimated that by the 2050s, with a temperature increase of 2-2.5°C, water in the river basins of Indus, Ganges and Brahmaputra will be reduced. This may threaten the food security of about 63 million people.

In the last 100 years, the sea level has risen to 4-8 inches and will continue to rise between 4 and 36 inches in the next 100 years.



3. International Climate Goals

Global warming should be kept to well below 2 degrees Celsius above pre-industrial levels, and efforts need be made to keep the temperature increase to 1.5 degrees Celsius. The United Nations Framework Convention on Climate Change (UNFCCC) adopted the Paris Agreement in 2015, which established this goal. It aims to address this problem by setting up a global temperature target and requires each nation to contribute in accordance with its obligations and capacity.

Differentiation
Developed nations must take the lead and set the pace for promoting greenhouse gas emission reduction.

Emission Objectives 2050
Achieving rapid emission reduction by striking a balance between emissions from human activity and the amount that can be captured by "Sinks".

Finance 2020-25
Developed countries (others can participate voluntarily) must collectively contribute USD 100 billion annually for climate action in developing countries until 2025.

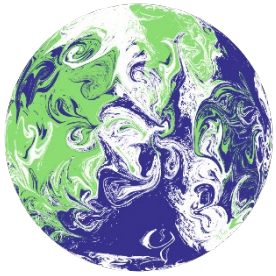
Burden Sharing
Developed countries must provide financial resources to help developing countries

Temperatures 2100
Keep warming "Well below 2 degrees Celsius"

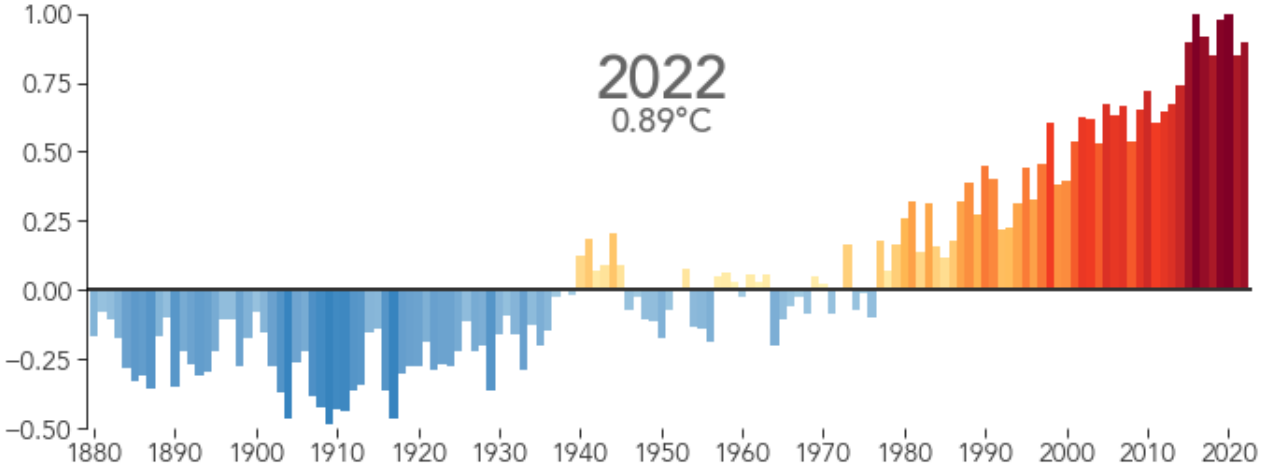
Climate Change Vulnerable countries recognize the need to "minimize and address" the damage caused by climate change

United Nations Framework Convention on Climate Change

Limit the increase in global average temperature to well **below 2°C** above preindustrial levels, to avoid the most catastrophic impacts of climate change.



Change in Global Temperature[1]



[1] World of Change: Global Temperatures (nasa.gov)

4. National Climate Goals

India has set a target of achieving net-zero emissions by 2070. This is a significant challenge, but it is one that India is committed to meeting. The country has already made significant progress in reducing greenhouse gas emissions, and it is continuing to invest in renewable energy and energy efficiency. India is also working to adapt to the impacts of climate change, such as by building more resilient infrastructure and improving disaster risk management. To achieve its net-zero emissions target, India has developed a Long-Term Low Emissions Development Strategy (LT-LEDS) [2].

India, as a signatory to the Paris Agreement, has submitted its Nationally Determined Contribution (NDC) in 2022 outlining its commitments to address climate change. Here are the key elements of India's NDC[3]:

- **LiFE – "**Lifestyle for Environment" as a key to combating climate change.
- Adopt a climate-friendly and cleaner path.
- Reduce the emission intensity of its GDP by 45% by 2030, from 2005 level.
- Achieve about 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with the help of transfer of technology and low-cost international finance, including from GCF.
- Create an additional carbon sink of 2.5 to 3 billion tons of CO2 equivalent through additional forest and tree cover by 2030.
- Create an additional carbon sink of 2.5 to 3 billion tons of CO2 equivalent through additional forest and tree cover by 2030.
- Better adapt to climate change by enhancing investments in sectors vulnerable, particularly agriculture, water resources, Himalayan & coastal regions, health, and disaster management.
- Mobilize domestic and new & additional funds from developed countries to implement the above mitigation and adaptation actions in view of the resource required and the resource gap.
- Build capacities and create a domestic framework and international architecture for quick diffusion of cutting-edge climate technology in India and for joint collaborative R&D for such future technologies.

[2] India LT-LEDS (unfccc.int)

[3] Microsoft Word - V5 NDC submission to UNFCCC

4.1 State Action Plan on Climate Change (SAPCC) for Rajasthan

Rajasthan is one of the most vulnerable states in India to the impacts of climate change. The state is already experiencing increased temperatures, erratic rainfall, and more frequent extreme weather events. These changes are having a significant impact on the state's environment, economy, and society.

In 2022, the Government of Rajasthan partnered with the Indian Institute of Technology, Bombay (IIT Bombay) to create the Rajasthan State Action Plan on Climate Change (RSAPCC). This comprehensive plan aims to address the impacts of climate change on various sectors within the state. It identifies the specific risks, impacts, and opportunities associated with climate change for these sectors. Additionally, the RSAPCC recommends adaptation and mitigation measures tailored for the state of Rajasthan[4]. These sectors are:

Socio-economic vulnerability of the state	**Water and Rainfall**	**Agriculture**	**Urban Governance and Sustainable Habitat**
Health	**Forestry and Biodiversity**	**Emission Profile and Mitigation Opportunity**	**Monitoring and Evaluation**

4.2 Current Development Scenario- Rajasthan

The MSME manufacturing sector in India consumes about one-quarter of the total energy consumed by the industrial sector, and there are growing concerns about the impact of climate change to address high energy consumption issue. Rajasthan has many micro, small and medium enterprises (MSMEs), which contribute a significant share to the state's industrial growth and economy. In India, there are over 500 Designated Consumers (DCs), which are large industries, mandated to comply with energy audits, emission monitoring, and Sustainability Reports. These

[4] Draft of State Action Plan on Climate Change 2022.pdf (tropmet.res.in)

regulations are overseen by the Perform, Achieve, and Trade (PAT) Cell in each state. While there is a requirement for publicly listed companies to disclose this information, there is a lack of significant encouragement for Micro, Small, and Medium Enterprises (MSMEs) in emerging industrial regions to adopt similar measurement and reporting practices.

Existing Policy Schemes for MSMEs in Rajasthan:

BEE-SME program: During the financial year (FY) 2018-19, the state of Rajasthan achieved an energy saving of 309 toe (tons of oil equivalent) and an emission reduction of 1528 tons of CO2 through the BEE-SME program.

GEF-UNIDO-BEE program: An energy-intensive cluster has been identified at Nagaur, Rajasthan (hand tools) and during FY 2018-19, an energy saving of 23 toe (tons of oil equivalent) and an emission reduction of 223 tons of CO2 was achieved.

BEE-WB-GEF-SIDBI program: During the FY (financial year) 2018-19, an energy saving of 300 tons of oil equivalent were obtained from the implementation of the BEE-WB-GEF-SIDBI program.

5. The Study

Step-I Identifying clusters and conducting awareness sessions

The study began by identifying specific MSMEs that significantly affect greenhouse gas emissions and are impacted by factors related to climate change. Surveys were conducted to gather information about the locations, sizes, and energy consumption of various industries. Two distinct clusters of MSMEs have been identified using spatial analysis, secondary data collection, and structured interviews with MSME associations, and the CII Rajasthan State Office. The Light Engineering Cluster, the first cluster, is in Bagru, Jaipur. The Garment Industry Cluster, the second cluster, can be found in Sitapura, Jaipur.

Step-II Introduction to the CCAC Toolkit, and Data Collection

The CII Climate Action Charter provides guidance on sustainable practices, raises awareness about climate change impacts, GHG emissions tracking and monitoring, and capacity-building programs in industries.

Companies had the chance to sign the charter and become members during this second phase. They were given access to the CII CCAC toolkit as part of this commitment, which is a useful tool for gathering and analyzing data to track and measure their emissions and overall environmental impact. The tool, which takes the form of a questionnaire, is designed to gather crucial data for determining the organization's size, identifying any inherent risks related to climate change, and assessing how well-prepared it is to handle these difficulties. Companies can efficiently manage and monitor their environmental performance by using this tool.

Step-III Analysis and Reporting

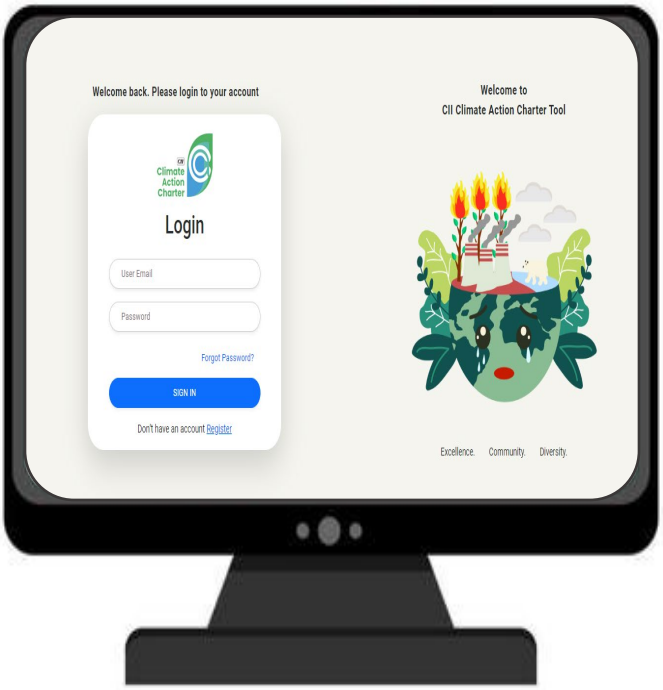
The third step of this study is data analysis and report preparation, which aims to foster awareness, identify potential risks distinctive to the area, and highlight opportunities for mitigation. This phase also focuses on analyzing the data gathered in accordance with the standards established by the Task Force on Climate-Related Financial Disclosures (TCFD). The report, which serves as the conclusion of this thorough assessment, offers insights into the risks that have been identified based on this analysis and offers suggestions for mitigating those risks.

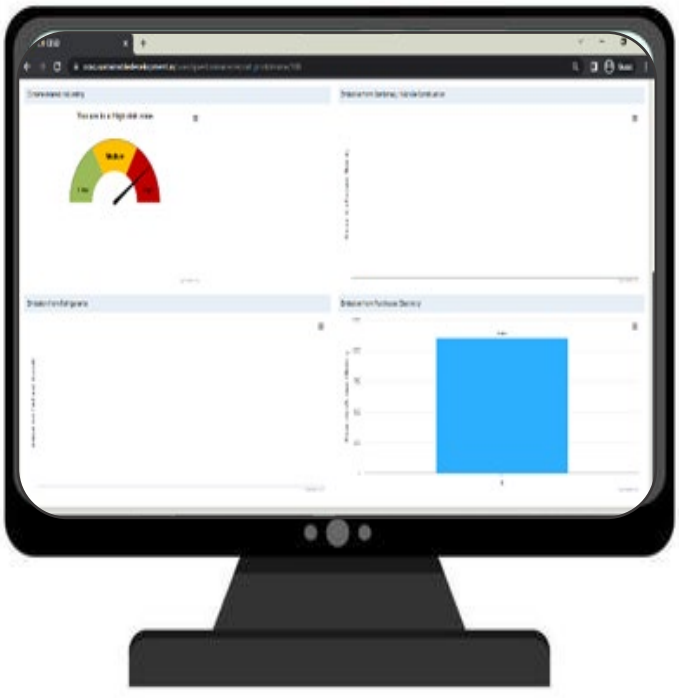
6. Carbon Calculation Toolkit

The CII CCAC toolkit helps companies measure their emissions and carbon footprint. The data is used to make educated decisions about their short- and long-term goals with respect to mitigating the impacts of climate change. The toolkit provides insights into reducing emissions, managing climate risks, and industry best practices, empowering businesses to create long-term roadmaps for addressing climate change risks and seizing opportunities for climate action.

Signatories to the CII CCAC toolkit have access to seminars and workshops on carbon reporting and management. With the aid of these resources, businesses can better understand how to manage climate risks, lessen their carbon footprint, and apply industry best practices. Businesses can learn how to develop long-term strategies for reducing emissions and tackling climate change by taking part in these sessions and workshops.

One of the main goals of the CII Centre of Excellence for Sustainable Development is to create an ecosystem of organizations focused on climate action that can share information on their green and sustainability initiatives. Businesses can improve their competitiveness by integrating sustainability into their everyday operations. This ecosystem can assist companies in locating opportunities to lessen their environmental impact, enhance their ESG performance, and seize early opportunities for climate action.





7. Methodology and Application of the Study

To identify opportunities that could positively impact businesses and enable efficient cluster analysis, the methodology used for this study considers a variety of scenarios. By assessing the readiness of clusters to address risks and leverage opportunities, valuable insights into the financial impact have been gained. Any gaps identified have been addressed, accompanied by recommendations and actionable plans to enhance preparedness for future assessments across clusters, sectors, and organizations.

The Task Force on Climate-related Financial Disclosures (TCFD)[5] has laid down guidelines and recommendations for industries. The Task Force's report establishes recommendations for disclosing clear, comparable, and consistent information about the risks and opportunities presented by climate change. Their widespread adoption will ensure that the effects of climate change become routinely considered in business and investment decisions. Adoption of these recommendations will also help companies better demonstrate responsibility and foresight in their consideration of climate issues. That will lead to smarter, more efficient allocation of capital, and help smooth the transition to a more sustainable, low-carbon economy.

The guidelines offer a comprehensive framework for disclosure across four crucial areas: governance, strategy, risk management, and metrics and targets. By focusing on these fundamental elements of business operations, companies can provide valuable insights into their approach to assess climate-related risks and identify opportunities. These guidelines show companies the advantages and opportunities that come with transitioning to sustainable practices. By being among the first to adopt these practices, companies can take advantage of the benefits outlined in the recommendations. By embracing sustainable practices, companies can put themselves in a leading position in terms of sustainable development, which will contribute to their long-term success.

The methodology used in this study, like TCFD, provides recommendations and instructions that enable businesses to actively combat climate change, reduce energy consumption, and support India's net-zero goals. The suggested actions can help companies gain a better understanding of the opportunities and risks associated with climate change as well as unlock the financial rewards of sustainable practices.

[5] FINAL-2017-TCFD-Report-11052018.pdf (bbhub.io)

8. Cluster Overview and Study Insights

8.1 Bagru Light Engineering Cluster- Overview

The light engineering cluster in Bagru, Jaipur is a group of Small and Medium Enterprises (SMEs) that specialize in the manufacturing of light engineering products. Bagru is a small town located on the outskirts of Jaipur, the capital city of the Indian state of Rajasthan.

More than 200 MSMEs in the Bagru Cluster

Awareness session conducted by CII on 20 January 2023

25 Industries Participated

8.1.1 Key Industries in Bagru Industrial Cluster

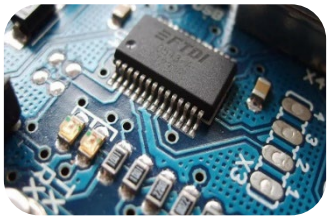
SMEs in the cluster have developed expertise in the design, development, and production of high-quality products that meet the needs of a variety of industries.

The Rajasthan State Industrial Development and Investment Corporation (RIICO), the Rajasthan Small Industries Corporation (RSIC),


METAL FABRICATION


PACKING CARDBOARD


AUTOMOTIVE PARTS

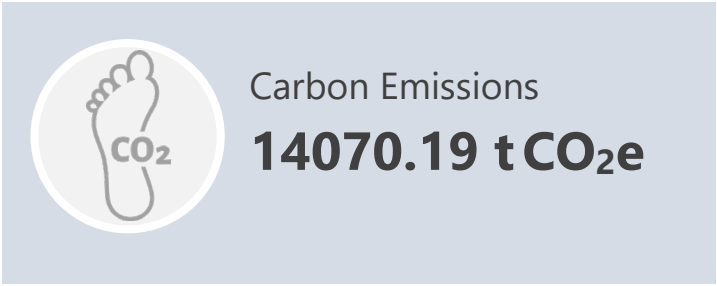

ELECTRONIC COMPONENTS

and the National Small Industries Corporation (NSIC) support the Bagru light engineering cluster. These organisations offer infrastructure, technical assistance, and the financial support required for SMEs in the cluster to develop and grow their operations.

The cluster has been successful in attracting investments from domestic as well as international firms, which has aided in boosting Rajasthan's regional economy. For streamlining their production procedures and boosting competitiveness, SMEs in the cluster are additionally adopting modern manufacturing techniques and technologies.

8.1.2 Insights

- Lack of awareness and limited access to information in the cluster regarding climate-related factors and their mitigation.
- The cluster is a major contributor to greenhouse gas (GHG) emissions in their processes.



- Total carbon emissions for FY 2021-22 estimated to be 14070.19 t CO_2e for organisations in the Bagru Cluster that have become signatories to the Charter.
- Approximately 96% of industries in the cluster are affected by high temperatures during summer seasons.
- In the Bagru cluster, most industries require a significant amount of water for their processes, but fulfilling this demand is challenging due to harsh climatic conditions in Rajasthan.
- Most industries in the cluster lack technical support to manage climate change risks and take proactive measures.
- Only 16% of industries currently have practices and programs in place to address climate change risks.
- Only 4% of industries have documented their GHG emissions inventory.
- None of the industries in the cluster have committed to achieving Net Zero emissions.
- Limited access to information hinders the ability to access local and global schemes related to climate change.

8.2 Sitapura Textile Cluster- Overview

The Garment Export Association of Rajasthan (GEAR) is a prominent industry association established in 1978 to promote and support the export of garments from Rajasthan. The association represents over 200 MSMEs engaged in the garment and textile sector, including several companies based in Sitapura, Jaipur.

More than 200 MSMEs in the Sitapura Cluster

Awareness session conducted by CII on 25 February 2023

26 Industries Participated

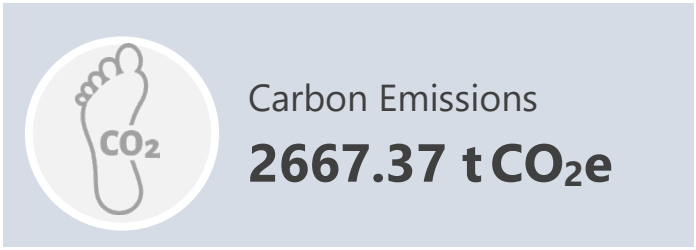
8.2.1 Key Industries in Sitapura Textile Cluster

The Garment Export Association of Rajasthan (GEAR) is a prominent industry association established in 1978 to support and promote garment exports from Rajasthan. Representing over 200 MSMEs in the garment and textile sector, including those based in Sitapura, Jaipur, GEAR has significantly benefited this region. Through information sharing, market intelligence, and networking opportunities, GEAR has played a crucial role in fostering the growth of the garment and textile sector in Sitapura.

Sitapura, Jaipur is home to numerous MSMEs engaged in garment manufacturing. These enterprises contribute significantly to the local economy by producing a diverse range of garments, textiles, and related products for both domestic and international markets. They specialize in traditional and modern wear, bridal wear, as well as casual wear. GEAR actively supports innovation and sustainability in the industry through training programs, workshops, and the promotion of eco-friendly manufacturing practices and sustainable materials.

8.2.2 Sitapura Textile Cluster- Insights

- High temperatures during the summer season affect 96% of industries in the cluster.
- The climate risk rating indicates a high-risk zone for both clusters.
- Total carbon emissions for FY 2021-22 estimated to be 2667.37t CO_2e for organisations from the Sitapura Cluster that have become signatories to the charter.
- Only 8% of industries have documented their greenhouse gas (GHG) emissions inventory.
- Merely 4% of industries in the cluster have committed to achieving Net Zero emissions.
- A few industries in the cluster have currently implemented practices, programs, or initiatives to manage climate risk.
- There is no industry involvement in global or national initiatives on climate change.
- A small number of industries utilize renewable energy sources.
- An informal transport system exists on both the supply and demand sides.
- Limited awareness exists regarding energy-efficient industrial motors among the population.

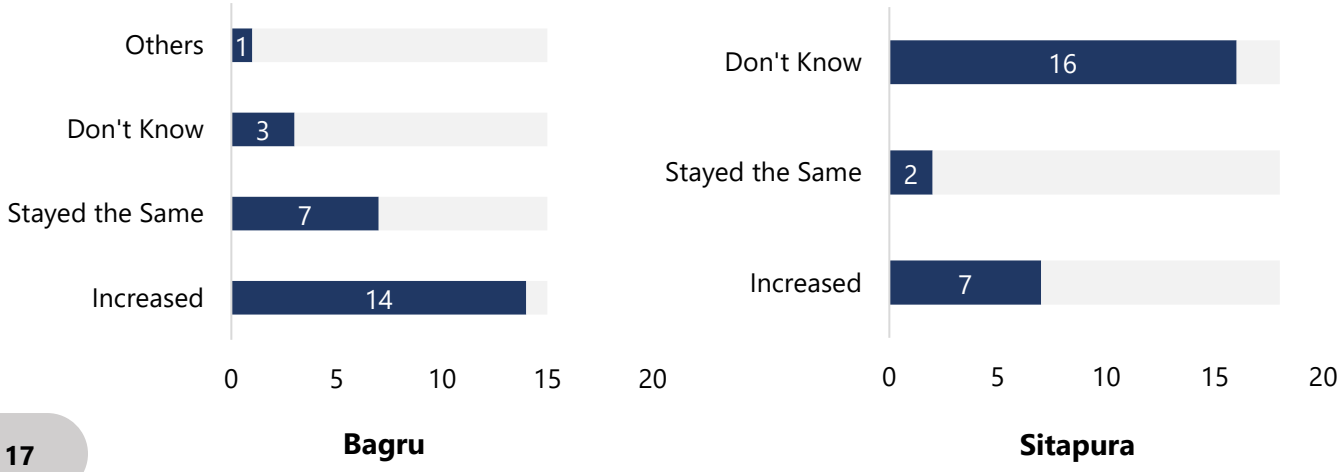


8.3 Bagru and Sitapura- Cluster Analysis

Several parameters, such as awareness of whether climate-related factors have affected their operations, vulnerability to the risk of climate change, and the proportion of industries affected by high summer temperatures, have been examined for both clusters. The outcomes are shown below.

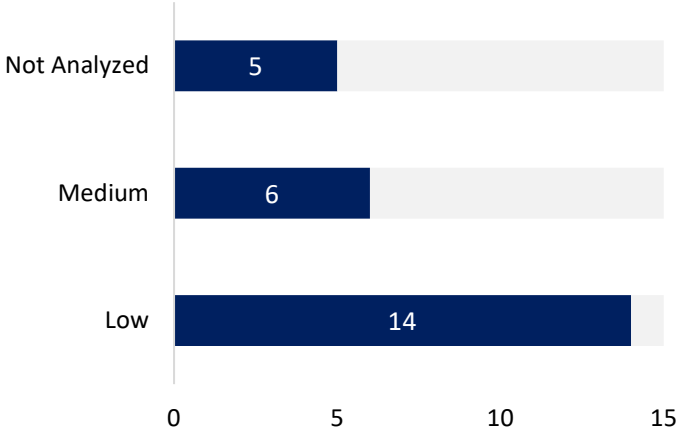
(i) Awareness

Number of industries that think **climate-related factors** have affected their operations:

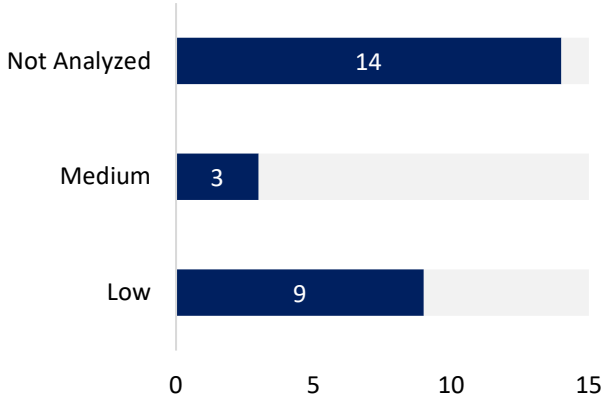


(ii) Vulnerablility to climate change risk

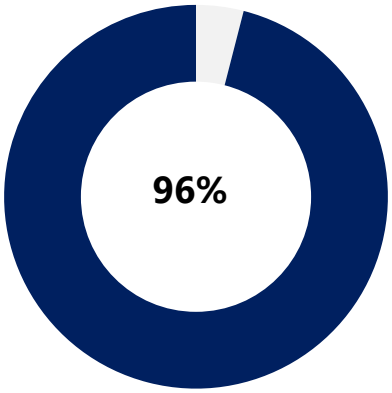
Number of industries that are **vulnerable to climate change** risk:



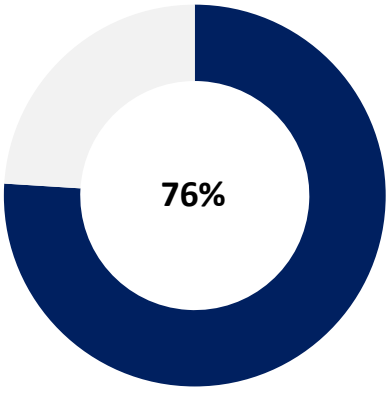
Bagru



Sitapura



% of industries, affected by **high temperature** during summer season



8.3.1 Bagru and Sitapura- Cluster Analysis Insights

Majority of businesses in the Bagru and Sitapura clusters still are unaware of the facts about climate change or the potential solutions that might be available.

- The lack of awareness among businesses may have significant implications for the environment and economy.
- MSMEs are major contributors to greenhouse gas emissions.
- The lack of awareness can result in environmental degradation.
- Environmental degradation can negatively impact the economy.
- Businesses should be aware of their impact on the environment.
- Awareness can help reduce greenhouse gas emissions.
- Awareness can lead to sustainable practices.
- Sustainable practices can benefit both the environment and the economy.

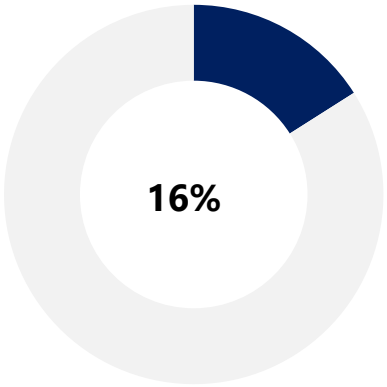
What could be done?

- **Engage employees and stakeholders**: Encourage employees and stakeholders to participate in sustainability initiatives. Raise awareness about the importance of reducing emissions and involve them in identifying and implementing solutions.
- **Reduce waste**: MSMEs can adopt circular economy practices, which involve using resources and materials in a closed-loop system. This can help reduce waste, increase efficiency, and create a more sustainable business model.
- **Collaborate with other businesses**: Collaborate with other businesses or supply chain to identify opportunities for collaboration on sustainability initiatives. This can include sharing best practices, jointly investing in renewable energy, or working together to reduce emissions.

Potential Support from CII and Local Government

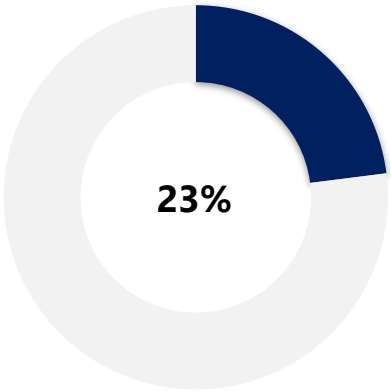
Conduct awareness sessions for businesses about their impact on the environment and effective measures to decrease their carbon footprint.

Reducing Carbon Emission

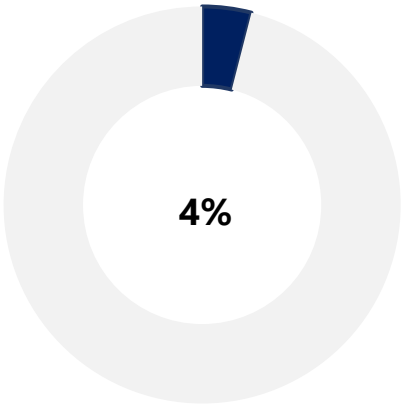


Bagru

% of industries that have current **practices or programs to manage climate** risk

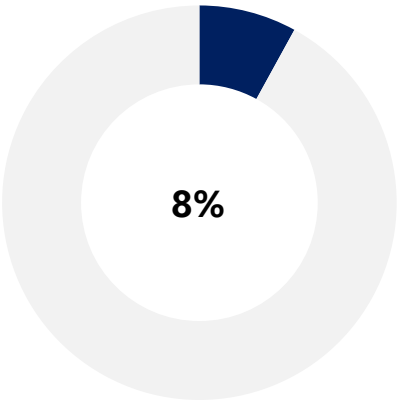


Sitapura

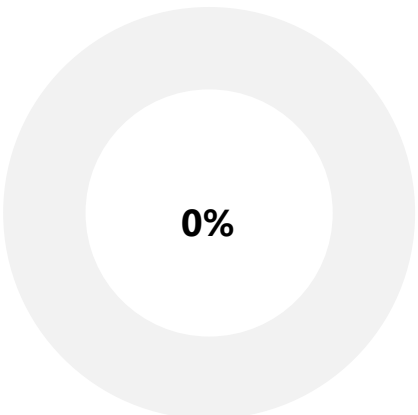


Bagru

% of industries that have **inventory of its GHG emissions**

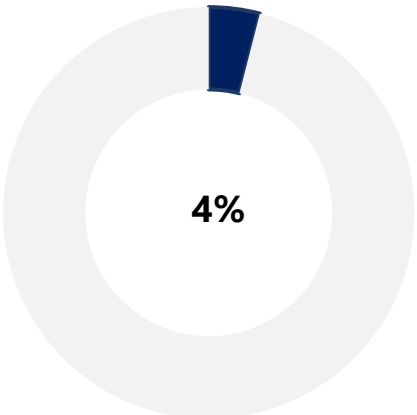


Sitapura

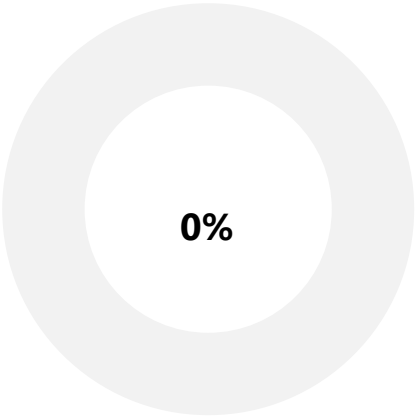


Bagru

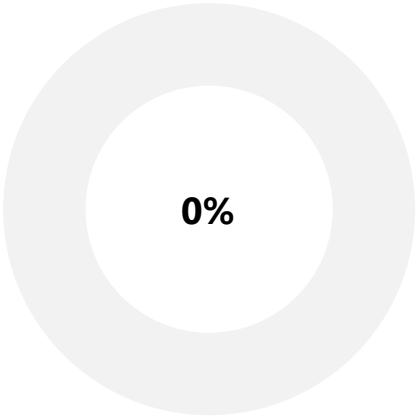
% of industries that **are commited** to achieve Net Zero GHG emissions



Sitapura



% of industries that **are associated** with global or national intiative on climate change



Bagru **Sitapura**

Cluster Analysis Insights

- Industries are not aware of the government's financial support for reducing greenhouse gas emissions, saving energy, and other related initiatives due to a lack of information access.
- No mandate or strict regulation for climate action.
- Lack of public awareness and demand for sustainable products.
- Some companies perceive sustainability efforts as costly and time-consuming.
- Limited understanding among companies regarding the long-term benefits of investing in sustainability.
- Worries about the cost and time required for additional initiatives.
- Lack of motivation among companies to take climate action.

What could be done?

Assess and monitor emissions: assess Green House Gas (GHG) emissions of the business, including direct and indirect emissions from operations and the supply chain. This will help to identify areas where emissions can be reduced and track progress over time.

Implement energy efficiency measures: Energy efficiency measures can help to reduce emissions and lower energy costs. Retrofitting measures such as LED lighting, energy-efficient equipment, and insulation to reduce energy consumption.

Transition to renewable energy: Switching to renewable energy sources such as solar or wind power can help MSMEs to reduce their carbon footprint significantly.

Set targets: Once emissions are identified, set ambitious targets for reducing them. Science-based Targets initiative (SBTi), Transition Pathway Initiative, The Climate Group initiatives like EV100 RE100 are few initiatives to set climate targets.

Optimize transportation: The transport sector is a significant contributor to emissions, and MSMEs can reduce their carbon footprint by optimizing transportation. This can include using efficient modes of transport, reducing the number of vehicles, or encouraging employees to use public transport, electric vehicles or cycling to work.

SS

Potential Support from CII and Local Government

- Assist industrial sectors in creating and executing plans to decrease emissions by offering guidance and technical expertise.
- Encourage industries to reach their emission reduction targets by offering rewards and acknowledgment for their accomplishments.
- Encourage cooperation and alliances among industries to exchange expertise, assets, and exemplary methods.

Financial Support

What could be done?

Enhanced cooperation between the government and industry is essential for creating policies and initiatives that aid businesses in reducing their carbon emissions and promoting a sustainable future.

Potential Support from CII and Local Government

Schemes and actions aimed at generating funds for eco-friendly projects.

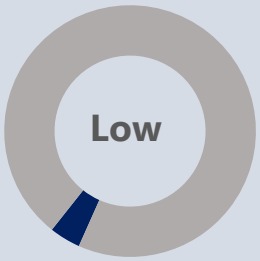
9. Case Study

ABC Company

Jaipur, Rajasthan

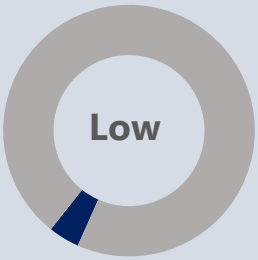
Readymade apparels manufacturer

Anuual Turnover
Rs. 30 Crore ($6 Million)



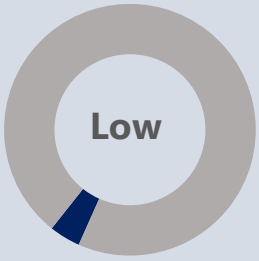
Awareness

Company unaware of the climate change effects resulting from its operations.



Reducing Carbon Emissios

The company has neither regulations in place to address the impacts of climate change nor a mandate to minimize their greenhouse gas emissions.



Financial Support

The company lacks access to information regarding government's financial support for initiatives aimed at reducing greenhouse gas emissions, energy conservation, and related measures.

Potential Risks

Increased costs:
Sustainable practices can often be more expensive than traditional methods. For example, using recycled materials can be more expensive than using new materials.

Reduced productivity:
Sustainable practices can sometimes lead to reduced productivity. For example, using water-efficient equipment can take longer to produce garments.

Lack of consumer demand:
There is a risk that consumers may not be willing to pay a premium for sustainable clothing. This could lead to a decline in sales for manufacturers that adopt sustainable practices.

Competition from unsustainable manufacturers:
Unsustainable manufacturers may be able to produce clothing at a lower cost than sustainable manufacturers. This could give them a competitive advantage and make it difficult for sustainable manufacturers to succeed.

Benefits of Climate Action

Cost savings:
Adopting sustainable practices can lead to significant cost savings in the long run. Energy-efficient processes, waste reduction, and water conservation measures can lower utility bills and operational expenses.

Regulatory compliance:
Adhering to climate action regulations and standards ensures legal compliance and mitigates the risk of fines, penalties, and legal issues. It helps the company maintain a good standing with regulatory authorities.

Improved operational efficiency:
Climate action practices often involve optimizing processes, reducing waste, and adopting innovative technologies. This can lead to improved operational efficiency, streamlined production, and better resource management.

Access to new markets and customers:
Many customers and businesses prioritize sustainable and ethical practices when making purchasing decisions. By implementing good environmental practices, a textile company can tap into these markets, attract environmentally conscious customers, and secure new business opportunities.

Employee engagement and satisfaction:
Engaging employees in environmentally friendly initiatives can boost morale, job satisfaction, and loyalty. Employees often take pride in working for a company that values climate actions, which can lead to increased productivity and employee retention.

Risk mitigation:
Environmental risks, such as supply chain disruptions due to resource scarcity or reputational damage from pollution incidents, can be minimized through proactive climate action practices. This helps the company mitigate potential risks and ensure business continuity.

10. Conclusion

The study carried out by CII CESD in the Bagru, and Sitapura Industrial Cluster has shed light on the pertinently concerning issue of greenhouse gas emissions by industries in the region. The findings revealed that these industries are significant contributors to emissions, which have a severe impact on the environment. To address this issue, the CII Climate Action Charter was introduced to help MSMEs measure, monitor, and report their carbon emissions. This Charter provides a framework for industries to develop strategies to reduce their carbon footprint and ultimately aim for net-zero emissions.

The study's impact has been significant as it has encouraged MSMEs in the region to prioritize sustainability and act towards mitigating the impacts of climate change. By providing valuable insights into the current state of emissions in the cluster and introducing a tool to monitor carbon emissions, the study has enabled MSMEs to plan for a sustainable future. This effort towards sustainability is a substantial contribution to the global effort to mitigate climate change.

The CII CESD study in the Bagru and Sitapura Industrial Cluster has set an example for other industrial clusters to follow in their pursuit of sustainability and climate action. The study's findings have emphasized the importance of reducing greenhouse gas emissions, and introduction of the CII Climate Action Charter has provided a framework for MSMEs to act towards reducing their carbon footprint.

11. Recommendations & Progress Tracking

Upon studying both clusters, it is evident that there is a lack of awareness and insufficient ongoing initiatives and financial support to address climate change. Rajasthan, being a hot and dry state, faces challenges such as inadequate water supply for industries and groundwater levels below sustainable conditions during summers. Based on the analysis of problems faced by the clusters in tackling climate change and mitigating emissions, the following initiatives can be recommended to them.

Energy Efficiency

a. Conduct energy audits:

- Engage with energy experts to conduct comprehensive energy audits in the organization.
- Assess energy consumption patterns, identify areas of wastage, and quantify potential energy savings (lighting, fans, motors, and water consumption).

b. Install energy-efficient equipment:

- Invest in energy-efficient machinery, such as LED lighting, efficient motors, and HVAC systems.
- Highlight the long-term cost savings and environmental benefits associated with energy-efficient equipment.
- Access to government schemes or financial incentives that support energy-efficient upgrades.

c. Promote renewable energy:

- Installing solar panels on rooftops or in the vicinity of the organization.
- Facilitate partnerships with renewable energy providers or financing institutions to support the adoption of clean energy solutions.

Water Conservation:

a. Monitor and reduce water usage:

- Conduct water audits in collaboration with water management experts to assess current consumption patterns and identify opportunities for conservation.
- Using water-efficient technologies, such as low-flow fixtures, water recycling systems, and leak detection mechanisms.
- Implementation of water management plans and the adoption of best practices, such as using water meters, timers, and sensors to optimize water use.

b. Harvest rainwater:

- Install rainwater harvesting systems within the organization with the help of technical guidance from the experts.
- Facilitate collaborations with local authorities or organizations specializing in rainwater harvesting to design and implement effective systems.

Green Transportation:

a. Encourage carpooling and public transport:

- Establish a carpooling platform or facilitate tie-ups with ride-sharing services to promote carpooling.
- Provide information on public transportation options, including bus routes, schedules, and nearby stations among the employees.
- Promote the benefits of carpooling and public transport, such as reduced emissions, cost savings, and reduced traffic congestion.

b. Support electric vehicles:

- Organize awareness campaigns, test drives, and workshops to familiarize employees with electric vehicle technology and benefits.

c. Using clean transport:

- Using more efficient supply chain transport in the organization.

Raise awareness:

- Organize workshops, seminars, and training programs on energy conservation and efficiency practices, and climate change action for the employees.
- Distribute educational materials, such as brochures or posters, highlighting water-saving tips and techniques.
- Foster a culture of water consciousness by recognizing and rewarding MSMEs that demonstrate exemplary water conservation efforts.

Progress Tracking and Monitoring:

a. Establish Key Performance Indicators (KPIs):

Define specific KPIs for each climate change initiative, such as energy savings (in kWh or percentage), waste diversion rates, water consumption reduction targets, and carbon footprint reduction (in CO_2 equivalent).

b. Regular reporting and feedback:

- Prepare periodic reports on sustainability efforts, including data on energy consumption, waste management, water usage, and transportation practices.
- Provide templates or reporting formats to ensure consistency and ease of data collection.
- Analyze the reported data to identify trends, areas of improvement, and success stories.

Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, with around 9,000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from 286 national and regional sectoral industry bodies.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

As India strategizes for the next 25 years to India@100, Indian industry must scale the competitiveness ladder to drive growth. It must also internalize the tenets of sustainability and climate action and accelerate its globalisation journey for leadership in a changing world. The role played by Indian industry will be central to the country's progress and success as a nation. CII, with the Theme for 2023-24 as 'Towards a Competitive and Sustainable India@100: Growth, Inclusiveness, Globalisation, Building Trust' has prioritized 6 action themes that will catalyze the journey of the country towards the vision of India@100.

With 65 offices, including 10 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with 350 counterpart organizations in 133 countries, CII serves as a reference point for Indian industry and the international business community.

CII-ITC Centre of Excellence for Sustainable Development

CII-ITC Centre of Excellence for Sustainable Development is a not-for-profit, industry-led institution that helps business become sustainable organizations. It is on a mission to propagate innovative ideas and solutions in India and globally, to enable business, and its stakeholders in sustainable value creation. CESD has leveraged its role of all-inclusive ecosystem player, partnering industry, government, and civil society. It has been a pioneer of environment management systems, biodiversity mapping, sustainability reporting, integrated reporting, and social & natural capital valuation in India, thus upgrading business in India to sustainable competitiveness.

Since its inception in the year 2006, CII-ITC CESD has evolved with a tremendous trajectory, starting off with the incubation phase of introducing business services, right through augmenting manpower capacity in other cities since 2013, eventually scaling up to the highest rung of strengthening work on macro-economic issues with both domestic and global policy interventions.

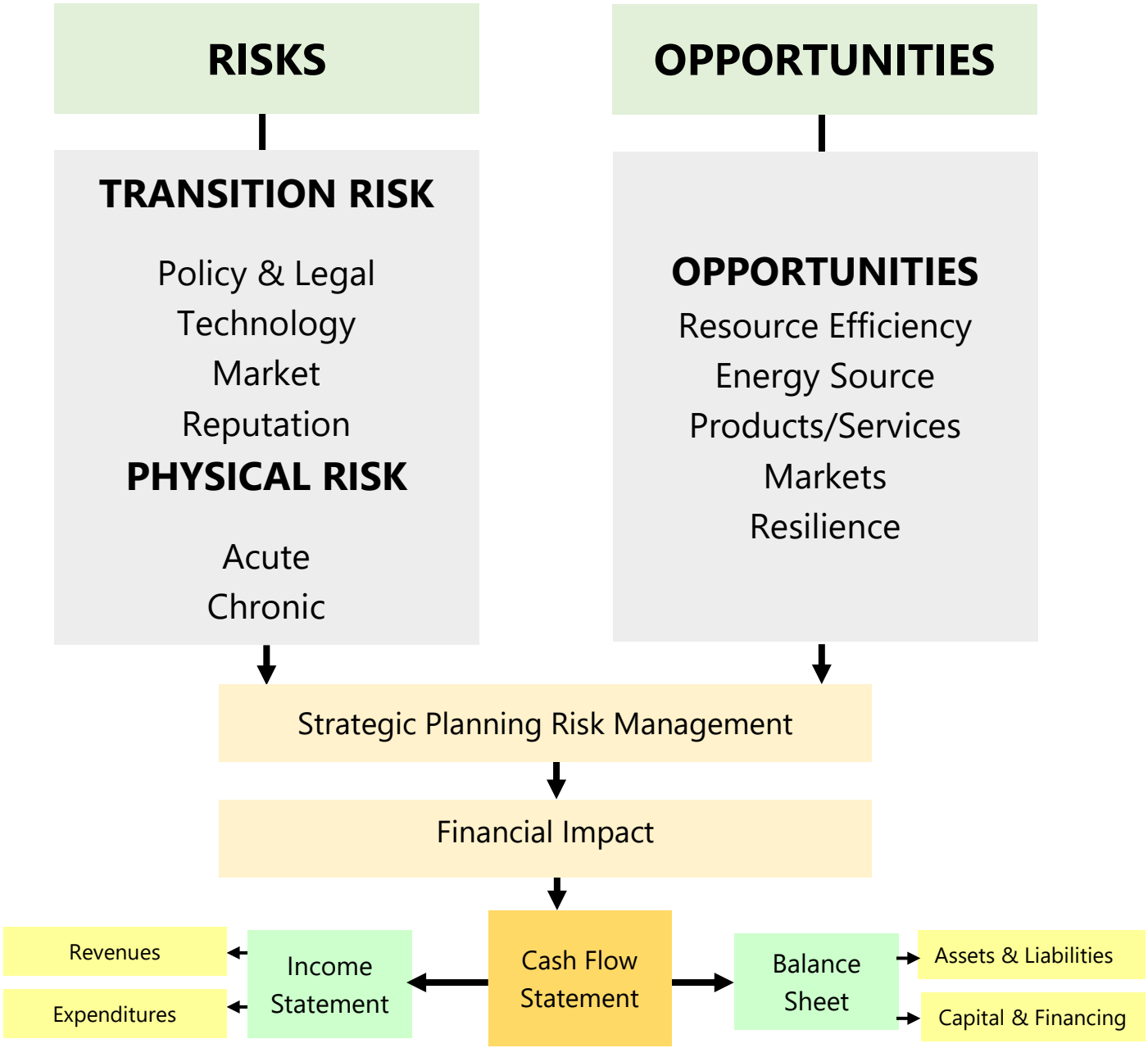
The CII Climate Action Charter (CCAC) is a platform for Indian businesses to address climate change as a material risk and develop long-term actions to build resilience. It aims to facilitate sectoral climate actions and showcase best practices for addressing climate risks. The CCAC will promote collective action by Indian businesses towards a just, equitable, and resilient transition and help build sustainable and competitive businesses.

MSMEs can play a significant role in driving energy transition to a more sustainable and equitable future. The MSME Toolkit is a unique and comprehensive platform created in line with the CII Climate Action Charter (CCAC). The toolkit provides MSMEs with a platform for assessing their vulnerability to climate-related hazards, raising awareness, and developing short- and long-term resilience measures. The toolkit helps in GHG foot-printing through an easy-to-use tool for calculating Scope 1 and Scope 2 emissions, allowing MSMEs to assess their carbon footprint and take appropriate mitigation measures across different scopes. The toolkit also addresses the climate-related risks that Indian MSMEs face by taking a comprehensive and collaborative approach.

The toolkit enables MSMEs to take ownership of their climate action transition by mapping climate change as a material risk across their value chains. It allows them to build resilience, develop sustainable practices and showcase best practices. The toolkit promotes a collective assessment of climate-related vulnerabilities, with a focus on collaboratively finding solutions for a just, equitable, and resilient transition.

Annexure - A

Climate-Related Risks, Opportunities, and Financial Impact



Annexure - B

Climate-Related Risks and Potential Financial Impacts

	Climate Related Risk	Potential Financial Impacts	
TRANSITION RISKS	**Policy and Legal**		
	• Increased pricing of GHG emissions • Enhanced emissions-reporting obligations • Mandates on and regulation of existing products and services • Exposure to litigation	• Increased operating costs (e.g., higher compliance costs, increased insurance premiums) • Write-offs, asset impairment, and early retirement of existing assets due to policy changes • Increased costs and/or reduced demand for products and services resulting from fines and judgments	• The high greenhouse gas (GHG) emissions from industrial activities in the area, combined with a lack of sustainable working designs, make it difficult for industries to operate efficiently during the summer when temperatures are already at their peak.
	Technology		
	• Substitution of existing products and services with lower emissions options • Unsuccessful investment in new technologies • Costs to transition to lower emissions technology	• Write-offs and early retirement of existing assets • Reduced demand for products and services • Research and development (R&D) expenditures in new and alternative technologies • Capital investments in technology development • Costs to adopt/deploy new practices and processes	• Most of the owners of industries, lack technical expertise, knowledge, and training regarding energy efficiency. As a result, they heavily rely on local technology suppliers or service companies, who often use established and commonly used technologies. Due to this lack of technical knowledge, owners struggle to identify the most effective technical measures for energy efficiency. While some small and medium-sized enterprise (SME) owners are interested in implementing energy efficiency measures, their lack of technical know-how means they must rely on local suppliers.
	Market		
	• Changing customer behavior • Uncertainty in market signals • Increased cost of raw materials	• Reduced demand for goods and services due to shift in consumer preferences • Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment) • Abrupt and unexpected shifts in energy costs • Change in revenue mix and sources, resulting in decreased revenues • Re-pricing of assets (e.g., fossil fuel reserves, land valuations, securities valuations)	• The increased cost of raw materials can be addressed by exploring alternative, sustainable materials that may be more cost-effective in the long term. Companies can also focus on improving resource efficiency and reducing waste to minimize the need for raw materials. Building stronger relationships with suppliers can also help to reduce costs and ensure a reliable supply chain.
	Reputation		
	• Shifts in consumer preferences • Stigmatization of sector • Increased stakeholder concern or negative stakeholder feedback	• Reduced revenue from decreased demand for goods/services • Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions) • Reduced revenue from negative impacts on workforce management and planning (e.g., employee attraction and retention) • Reduction in capital availability	

	Climate Related Risk	Potential Financial Impacts	
PHYSICAL RISKS	**Acute** • Increased severity of extreme weather events such as cyclones and floods **Chronic** • Changes in precipitation patterns and extreme variability in weather patterns • Rising mean temperatures • Rising sea levels	• Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions) • Reduced revenue and higher costs from negative impacts on workforce (e.g., health, safety, absenteeism) • Write-offs and early retirement of existing assets (e.g., damage to property and assets in "high-risk" locations) • Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants) • Increased capital costs (e.g., damage to facilities) • Reduced revenues from lower sales/output	• The high temperatures during summer are affecting almost all industries in the Sitapura and Bagru clusters. The heat waves are also causing negative impacts on the workforce, resulting in a loss of production.

Annexure - C

Climate-Related Opportunities and Potential Financial Impacts

OPPORTUNITIES

	Climate Related	Potential Financial Impacts	
RESOURCE EFFICIENCY	• Use of more efficient modes of transport • Use of more efficient production and distribution processes • Use of recycling • Move to more efficient buildings • Reduced water usage and consumption	• Reduced operating costs (e.g., through efficiency gains and cost reductions) • Increased production capacity, resulting in increased revenues • Increased value of fixed assets (e.g., highly rated energy-efficient buildings) • Benefits to workforce management and planning (e.g., improved health and safety, employee satisfaction) resulting in lower costs	• Businesses are adapting to changing customer preferences, particularly around the recyclability and sourcing of product materials, by making changes to their procurement and operations processes to remain competitive. To ensure sustainability, companies need to monitor their waste management practices and strive to operate within a circular economy where products are designed with a focus on reuse and recycling.
ENERGY SOURCE	• Use of lower-emission sources of energy • Use of supportive policy incentives • Use of new technologies • Participation in carbon market • Shift toward decentralized energy generation	• Reduced operational costs (e.g., through use of lowest cost abatement) • Reduced exposure to future fossil fuel price increases • Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon • Returns on investment in low-emission technology • Increased capital availability (e.g., as more investors favor lower-emissions producers) • Reputational benefits resulting in increased demand for goods/services	• The Bureau of Energy Efficiency (BEE) has introduced several schemes aimed at improving energy efficiency in established industries, including the use of BEE star-rated products.
PRODUCTS AND SERVICES	• Development and/or expansion of low emission goods and services • Development of climate adaptation and insurance risk solutions • Development of new products or services through R&D and innovation	• Increased revenue through demand for lower emissions products and services • Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services) • Better competitive position to reflect shifting consumer preferences, resulting in increased revenues	
MARKETS	• Access to new markets • Use of public-sector incentives • Access to new assets and locations needing insurance coverage	• Increased revenues through access to new and emerging markets (e.g., partnerships with governments, development banks) • Increased diversification of financial assets (e.g., green bonds and infrastructure)	
RESILIENCE	• Participation in renewable energy programs and adoption of energy-efficiency measures • Resource substitutes/diversification	• Increased market valuation through resilience planning (e.g., infrastructure, land, buildings) • Increased reliability of supply chain and ability to operate under various conditions	• Use of solar power in the industry. • Use of energy efficent appliances

Notes

Notes