



Clean Energy Finance and Investment Roadmap

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Draft agenda Workshop II: MSME Energy Efficiency – 10th May 2022 (hybrid)

13h30 (IST) Welcome address & remarks Ms. Cecilia Tam, OECD

Shri Abhay Bakre, BEE

13h45 Energy efficiency in MSMEs: ambitions & financing needs BEE

14h15 CEFI Roadmap Mr. John Dulac, OECD & Ms. Poonam Sandhu, NRDC

Overview & recap of Roadmap process & Workshop I on challenges and opportunities

14h30 Group discussion: assessing investment needs and the impacts from the cost of finance

Moderator: John Dulac, OECD

- i) How much finance is needed and what is the cost breakdown?
 - What are the (typical) range of costs (e.g. CAPEX) for MSME efficiency upgrades? How does this relate to broader financing needs (i.e. the non-efficiency component)?
 - What financing is typically needed for these elements, and how is this being financed (e.g. on balance sheet, equity/debt, etc.)?
 - What are the typical terms & tenures of financing?
- ii) What levers impact the cost of financing for MSME efficiency upgradation?
 - How do current/previous solutions (e.g. the CLCSS and TUPEQ schemes) impact the cost of financing and/or borrowing capacity of MSMEs?
 - What other concerns influence cost of financing, and how much (e.g. in basis points) impact do these have?
 - Where have current/previous initiatives addressed these? Where have they not?
 - Any other elements influencing cost of finance (e.g. Forex costs for int'l support)?

15h30 Coffee break

15h45 Group discussion: solutions to lower the costs for energy efficiency investments

Moderator: Poonam Sandhu, OECD

- i) What solutions can support domestic lending for MSME efficiency upgradation?

- *What can support domestic lenders (e.g. NBFCs) to increase financing of MSME efficiency investments (e.g. through common documentation, technology lists, training & capacity building)?*
 - *What do lenders perceive as key risks (and the subsequent cost of finance), and how can this be improved?*
 - *Are there lessons to be learned from previous initiatives that can help to lower the cost of finance?*
 - *How are these types of investments being financed internationally (e.g. using what instruments/structures, public/private funds, etc.)?*
- ii) *What can increase/improve international finance and support for MSME efficiency?*
- *How do international programmes/investors perceive financing & related risks for MSME lending & initiatives, and what can help to increase scale and impact?*
 - *What mechanisms/solutions (e.g. for Forex hedging) can help to lower the cost of finance?*
 - *What role can blended finance play, and how should related support (e.g. on training & capacity building) be treated in a way that addresses the cost of financing?*
 - *Is current MSME efficiency financing prepared/packaged in a way that facilitates international finance & investment, and if not, what can help to address this?*

17h30 Concluding remarks & next steps

Ms. Cecilia Tam, OECD

Energy efficiency in India: background and context

Energy efficiency was highlighted in India's 2016 nationally determined contributions, contributing up to 56% of India's commitment to reduce emissions intensity by 33-35% over 2005 levels by 2030. Prime Minister Shri Narendra Modi announced intentions at COP 26 to increase this carbon intensity target to [45% reduction](#) by 2030. To ensure energy efficiency activities are aligned with this commitment, the Bureau of Energy Efficiency (BEE) developed a strategic plan, Unlocking National Energy Efficiency Potential (UNNATEE), in 2017. This laid a framework for the Roadmap of Sustainable and Holistic Approach to National Energy Efficiency (ROSHANEE) to 2031, which will expand and strengthen the 2011 National Mission for Enhanced Energy Efficiency (NMEEE).

ROSHANEE comprises 12 strategic areas with subsequent programmes and activities. This includes a strategic focus on small and medium enterprises (SMEs) as well as activities under other programmes such as the Perform, Achieve and Trade (PAT) scheme, whose proposed expansion would help to address energy conservation and efficiency in certain SME segments.

ROSHANEE and the SME focus also build upon initiatives such as the BEE SME programme launched in 2009, which focused on accelerating the adoption of energy-efficient technologies and practices in energy-intensive segments. Activities under the programme included 100 technology demonstration projects in five SME sectors as well as preparation of cluster manuals, awareness raising, knowledge sharing and technical support ([BEE, 2021](#)).

SN	Area	Programme	Broad Activity
3	Small & Medium Enterprise	SME cluster programme for Energy Efficiency	Promotion of innovative demo projects and capacity building of SMEs
		Low Carbon technologies	Promotion of innovative low carbon technologies in the SME cluster
		Brick Kilns	Market transformation for energy efficient bricks
		SAMEEKSHA	Knowledge sharing and synergizing the efforts of various organizations and institutions

The case for energy efficiency in MSMEs

India's energy efficiency investment potential is estimated to be around USD 111 billion by 2031, much of which is concentrated in the industrial sector ([BEE, 2019](#)). Micro, small and medium enterprises (MSME) constitute more than 90% of all industrial units in India, playing a critical role in the overall economy ([TERI, 2021](#)). MSMEs have a high degree of heterogeneity and are broadly classified by Ministry of MSME [definitions](#) (updated in July 2020) as:

Revised Classification applicable w.e.f 1st July 2020			
Composite Criteria: Investment in Plant & Machinery/equipment and Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing Enterprises and Enterprises rendering Services	Investment in Plant and Machinery or Equipment: Not more than Rs.1 crore and Annual Turnover ; not more than Rs. 5 crore	Investment in Plant and Machinery or Equipment: Not more than Rs.10 crore and Annual Turnover ; not more than Rs. 50 crore	Investment in Plant and Machinery or Equipment: Not more than Rs.50 crore and Annual Turnover ; not more than Rs. 250 crore

There were around 5.5 million MSMEs registered in India as of November 2021 under the [Udyam](#) registration system launched in July 2020 ([MSME, 2021](#)). Yet, Udyam registered enterprises are only

a fraction of the roughly 64 million MSME units in India, which employ over 110 million people and contribute to about 28% of India's gross domestic product ([BEE 2020](#)).

Altogether, MSMEs contribute to more than 45% of industrial output and around 40% of the country's exports in value added ([BEE SME portal](#)). Whilst individual energy consumption can be rather low, collective MSME energy use represents the equivalent of around 50 million tonnes of oil equivalent (Mtoe) annually, or roughly the total final energy consumption of Argentina in 2020 ([IEA, 2021](#)). This consumption is expected to increase by a projected annual growth rate of 6% over the coming decade if MSMEs continue to rely on low efficiency technologies and poor operating practices ([BEE, 2021](#)).

MSME units in India are typically characterised by geographical and industrial clusters representing various energy-intensive sectors like foundries, refractories, metallurgy, brass, brick, glass, ceramics, textiles, dyes, chemicals and processed foods. These clusters can depend on obsolete and energy-intensive technologies that result in high energy consumption. For instance, less than 5% of electric motors sold in the Indian market in 2015 were at IE3 level or better ([TERI, 2017](#)). Use of these less efficient technologies impacts profitability and competitiveness. In fact, energy-intensive operations can result in disproportionately high costs per unit of energy consumed, making MSMEs vulnerable to fluctuations in energy prices ([CEEW, 2018](#)).

Table 1: Energy cost across key energy-intensive sectors

Sector	Energy cost as a share of total manufacturing cost
Forging	50 %
Foundry	50 %
Die casting	35 %
Ceramics	35-40 %
Moulding	12-50 %
Sheet metal	12-28 %
Textile dyeing	10 %

Source: [CEEW, 2018](#)

Overall, energy efficiency adoption by MSMEs is low, and there are huge opportunities to tap into the estimated USD 103 billion clean tech market potential for MSMEs ([CII, 2020](#)). For example, a TERI-Shakti project to promote adoption of IE3 motors in the Ankleshwar chemical cluster in Gujarat found that savings of 5% could easily be obtained by upgrading and replacing existing motors. If integrated with systems like variable frequency drives and soft starters, the savings would increase to 10-15% ([TERI, 2017](#)). Wider observations estimate that energy consumption across MSMEs could be reduced by 20-30% through adoption of these types of known energy efficiency measures ([Shakti, 2017](#)).

MSME barriers and needs for energy efficiency investment

Many MSME segments have not seen large-scale adoption of energy-efficient technologies, in part because financing continues to be a grey area ([BEE, 2021](#)). Smaller operations and a smaller capital base means MSMEs typically do not have access to affordable financing ([AEEE, 2021](#)). In fact, self-financing was listed as the major source of financing for both capital and operational expenses for a

majority of enterprises ([CEEW, 2018](#)). MSMEs looking for financing also often feel that their project loan proposals get rejected due to lack of requisite collateral or guarantees ([Shatki, 2017](#)).

This is compounded by a number of other barriers that contribute to low adoption rates, such as lack of awareness and limited knowledge of energy-efficient technologies ([CII, 2020](#)). In cases where there is awareness, incentive to undertake energy efficiency improvements is often limited, unless such investments are directly linked to production capacity ([Shatki, 2017](#)). Capacity to carry out energy audits is another challenge. One study on the factors influencing uptake of energy efficiency in MSMEs found that whilst 56% of surveyed enterprises monitored and recorded their energy use, only 35% had actually conducted an energy audit within the previous three years ([CEEW, 2018](#)).

Many MSMEs also lack technical expertise or capacity to fulfil project preparation and documentation requirements for financing ([BEE, 2020](#)). Lack of knowledge about the process to avail of financing (e.g. through government schemes) is another a barrier for many MSMEs. In fact, a budgetary analysis of the Technology & Quality Upgradation Support for MSMEs (TEQUP) found that around 71% of the funds went unused ([CEEW, 2018](#)).

Commercial banks and non-banking financial companies (NBFCs) also lack sufficient awareness and capacity to apply energy efficiency financing concepts (e.g. technical risk factors in the appraisal process) ([BEE, 2021](#)). Financial institutions are also reluctant to provide cash flow-based project finance for energy efficiency projects. This is due, in part, to lack of data (e.g. on asset performance), which influences willingness to lend to energy efficiency projects. Other factors, such as hedging costs for international finance, can likewise influence capital flows for energy efficiency.

Absence of comprehensive data on energy consumed in the roughly six thousand MSME clusters in India also hampers efforts to improve energy efficiency uptake in MSMEs ([CEEW, 2018](#)). Efforts such as a 2012 benchmarking and data mapping of 36 MSME clusters across India helped to assess energy savings potential from specific energy-efficient technologies, but work is still needed to track MSME energy consumption to inform energy efficiency opportunities ([TERI, 2012](#)). Access to data and sharing of success stories also can be an issue to encourage replication of energy efficiency measures in other MSME units ([Shatki, 2017](#)).

Support and financing of energy efficiency investment in MSMEs

To help address these barriers, BEE and TERI launched a collaborative platform for Small and Medium Enterprises Energy Efficiency Knowledge Sharing ([SAMEEEKSHA](#)) to pool knowledge and information that supports efforts by different organisations working towards the common goal of promoting adoption of energy-efficient technologies and practices in MSMEs ([BEE, 2021](#)). Industry can interface with technology specialists, research institutions, government bodies, training institutes, funding agencies and academia through the platform. The platform also enables like-minded organisation to co-ordinate activities ([TERI, 2020](#)).

BEE also created Energy Conservation [Guidelines for the MSME sector](#) to help adopt best available technologies and operating practices. The Confederation of Indian Industry (CII) similarly provides [sector-specific analysis, manuals and benchmarking information](#), and a [JICA-sponsored MSME Energy Saving Project](#) produced a [list](#) of energy-efficient technologies and technical specifications for MSMEs. A list of more than 150 efficient technologies was likewise prepared by BEE and recommended to the

Ministry of MSMEs for the Credit Linked Capital Subsidy Scheme ([BEE, 2020](#)). 50 [multimedia tutorials](#) on energy-efficient technologies were also developed for more than 20 energy-intensive MSME segments, and a knowledge portal, Simplified Digital Hands-on Information on Energy Efficiency (SIDHIEE), was launched in 2019 ([BEE 2019-20](#)).

Similar efforts have worked to address awareness and technical capacity to implement energy efficiency measures in MSMEs. For example, an agreement was signed between BEE and the Office of the Development Commissioner of the Ministry of MSME in 2019 for joint implementation of activities “Promoting Energy Security of MSME sector” ([BEE, 2021](#)). The programme, which includes energy mapping in nine energy-intensive MSME sectors (foundry, forging, steel, glass & refractory, paper, chemical, bricks, pharmaceuticals and dairy), builds upon the BEE “National Programme on Energy Efficiency and Technology Upgradation of MSMEs” created in 2007 to accelerate adoption of energy-efficient technologies ([AEEE, 2021](#)). Achievements included five demonstration projects in the textile, brick and food clusters, as well as 21 pilot projects in four further clusters. Energy savings were estimated at 1.2 Mtoe, representing emissions reduction of nearly 4 000 tonnes of CO₂.

Other initiatives have looked to address the financial barriers to energy efficiency in MSMEs. One such example is the 2016 BEE [market assessment](#) that led to the creation of two financial instruments under the Framework for Energy-Efficient Economic Development. One is the Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE), which is a risk-sharing mechanism that provides partial coverage (up to 50% of the loan or Rs. 10 crores [USD 1.3 million], whichever is less) to partner financial institutions. The second, a Venture Capital Fund for Energy Efficiency (VCFEE), will support energy efficiency investment through last-mile equity (limited to 15% of total equity required or Rs 2 crore [USD 270 thousand], whichever is less) via a special purpose vehicle ([BEE 2020](#)).

These new funds build upon the Partial Risk Sharing Facility (PRSF) launched in 2015 under the Small Industries Development Bank of India (SIDBI). PRSF provides guarantees (through USD 25 million from the Clean Technology Fund alongside USD 12 million from the Global Environment Facility [GEF]) to 14 participating financial institutions, covering a share of default risk from loans to energy efficiency projects implemented by 18 approved ESCOs via energy savings performance contracts ([BEE, 2021](#)). PRSF also includes technical assistance and had guaranteed over USD 18 million in energy efficiency projects by March 2020 ([SIDBI, 2020](#)).

In addition, SIDBI provides a [knowledge repository](#) for MSMEs as well as several [financial products](#) for energy efficiency projects in MSMEs, for instance through [SIDBI Venture Capital Limited \(SVCL\)](#). Funds focus on themes including start-ups and early stage technology businesses, manufacturing MSMEs, service entities and agricultural businesses. SIDBI can also provide credit guarantees, microfinance, SME ratings, technology support, and use of fund-of-fund support for venture capital funds.

These MSME finance initiatives are complemented by other government funds such as the:

- Technology Upgradation Fund Scheme (Ministry of Textiles)
- Scheme for Technology Upgradation/Establishment/Modernisation for Food Processing Industries (Ministry of Food Processing Industries)
- Financial support under the Zero Defect - Zero Effect scheme (Ministry of MSMEs)
- Credit Linked Capital Subsidy Scheme for Technology Upgradation (Ministry of MSMEs)
- Technology & Quality Upgradation Support for MSMEs (Ministry of MSMEs).

State schemes, for example in Gujarat, Tamil Nadu and Madhya Pradesh, also exist ([BEE, 2021](#)).

Multilateral support through the GEF has likewise supported energy efficiency uptake by MSMEs, for example under two projects with BEE and Energy Efficiency Services Limited (EESL). One, the GEF-5 “UNIDO-MSME-EESL project on promoting market transformation for energy efficiency in MSMEs”, identified ten energy-intensive clusters for demonstration of 35 energy-efficient technologies that EESL will explore for demand aggregation through an ESCO financing model ([AEEE, 2021](#)). The three-year project is anticipated to save as much as 110 Mtoe of energy, leveraging the USD 31 million GEF grant through an Energy Management Revolving Fund to enable financing beyond the project.

A GEF, World Bank and BEE project created a revolving fund in 2015 to promote “Financing of energy efficiency in MSMEs” through concessional interest rates ([BEE, 2021](#)). The programme also worked to build capacity and awareness for energy efficiency in several sectors (e.g. forging, chemical and foundry industries) ([BEE, 2019](#)). Over 630 firms benefitted from the fund, and interventions carried out between 2015-19 led to about 12 Mtoe of annual energy savings in 2019 ([AEEE 2021](#)). Additionally, more than 1 250 investment-grade detailed project reports were developed through energy audits, which help to justify financing the energy efficiency investments ([BEE 2020](#)).

A GEF, United Nations Industrial Development Organisation (UNIDO) and BEE project on “Promoting Energy Efficiency and Renewable Energy in Selected MSME Clusters in India” also worked to support a market environment for energy-efficient technologies in energy-intensive applications ([BEE, 2021](#)). The project was initially operational in five sectors (brass, ceramics, dairy, foundry and hand tools) in 12 MSME clusters, using a GEF grant of USD 7 million and co-financing of USD 26 million. Detailed energy audits, technology identification, capacity building and implementation assistance were provided, alongside training, monitoring and dissemination activities to aggregate demand and replicate experiences ([Deevela, 2019](#)). The programme has since been scaled up to the national level, and lessons learned from the first phase (e.g. from energy audits and energy management activities) are being used to fast-track implementation of clean energy measures ([BEE 2020](#)).

Other past programmes have included bilateral support, such as the financial assistance offered by KfW and SIDBI through a line of credit offered to MSMEs until December 2019 for energy efficiency investments ([AEEE, 2021](#)). Assistance for equipment, technologies or process improvements under the scheme was provided for a minimum of Rs. 10 lakhs (about USD 13 500) over a maximum period of seven years with interest 1% below the normal lending rate.

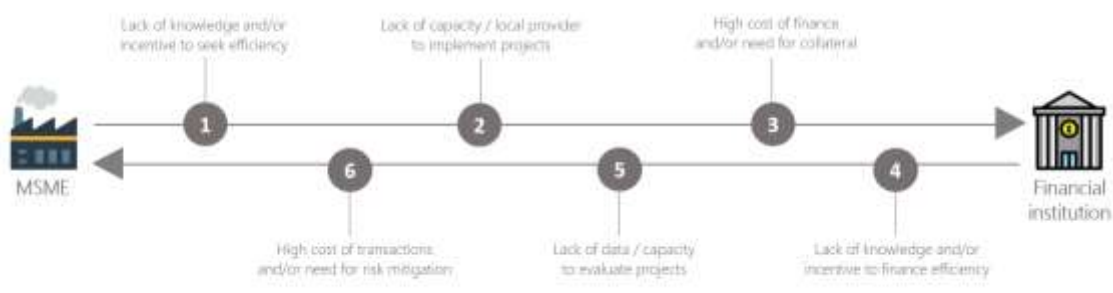
Workshop I (14 March 2022): Summary Notes

Energy efficiency has been highlighted as a key aspect of India’s climate ambitions. At the 26th Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change, Prime Minister Shri Narendra Modi announced intentions to reduce India’s carbon intensity by 45% over 2005 levels by 2030, significantly raising the existing target of 33-35%. Higher ambition brings immense investment potential for energy efficiency in India, and creating the enabling conditions for the flows of capital required to achieve this 2030 target will be essential.

Micro, small and medium enterprises (MSMEs) are of particular importance in this context. MSMEs constitute more than 90% of all industrial units in India, employing over 111 million people and contributing to about 29% of India’s gross domestic product. Altogether, MSMEs account for a quarter of the total industrial energy consumption in India. Owing to their reliance on low efficiency technologies and poor operating practices, MSMEs also face substantial energy costs (as much as 35% of overall operating expenditures). Improving energy efficiency in MSMEs will thus not only reduce energy-related emissions but also reduce this cost burden.

The OECD Clean Energy Finance and Investment Mobilisation (CEFIM) programme and Natural Resources Defense Council (NRDC) presented findings from stakeholder consultations with actors engaged in efforts and initiatives seeking to address and improve energy efficiency finance and investment for MSMEs. Consultations pointed to a number of key challenges and opportunities:

Illustrative schematic of the overall MSME energy efficiency finance and investment value chain



MSMEs often lack awareness and/or appetite to seek energy efficiency investments, especially if not tied to improvements in production capacity or export competitiveness. Where there is demand, lack of capacity to carry out efficiency measures (including by local service providers) can create additional bottlenecks. A number of initiatives have sought to address these barriers through training and capacity building support, for instance working with MSME clusters or segments, although this can be both time and resource intensive. Workshop participants also highlighted that available technologies, adapted to the Indian context, may equally require further training and capacity efforts to ensure energy efficiency solutions are suited to the needs of MSMEs (e.g. through customisation) and can be appropriately operated/maintained to ensure their effectiveness over time.

Access to affordable financing is another critical challenge, particularly given MSME credit profiles and the common need to provide upfront collateral or equity to access finance. There also is an overall lack of suitable finance solutions, such as cash-flow based financing options, to support energy efficiency investments by MSMEs.

Barriers exist equally on the financial institutions’ side of the equation. Part of this is due to lack of awareness and/or familiarity of energy efficiency technologies. Energy and asset performance data is also scarce, both at the unit or cluster level, contributing to an already high perception of risk by financial institutions. Lack of data also contributes to high transaction costs, for instance from due diligence to assess the expected return of measures on a case-by-case basis, and this can add to the challenges and/or lack of willingness to seek out and lend to MSME energy efficiency projects. Lack of standardised documentation and other issues, like hedging costs faced by international lenders, can further increase the overall cost of financing.

Several policies, initiatives and support schemes at both the national and cluster level have addressed these challenges. Consultations consistently pointed to the need to strengthen efforts in a way that ensures greater consistency and replicability of those efforts to address bottlenecks in the MSME energy efficiency finance and investment value chain. Given the effectiveness of previous initiatives working in a cluster-based approach, the Bureau of Energy Efficiency (BEE) proposed two possible initiatives for MSME energy efficiency. The first is exploration of a Common Facility Centres, in which community-based energy efficiency technologies can be made available to MSME clusters on a pay-per-use basis. The second is exploration of expansion of coverage to include MSME clusters under the Perform, Achieve and Trade (PAT) scheme. These may help address issues along the MSME energy efficiency finance and investment value chain, such as appetite for efficiency measures and available, suitable technology solutions. The proposed measures would also build upon existing BEE initiatives to address finance and investment in energy efficiency technologies, such as the new Energy Efficiency Financing Platform (EEFP).

Group discussion: identifying solutions and targeting interventions

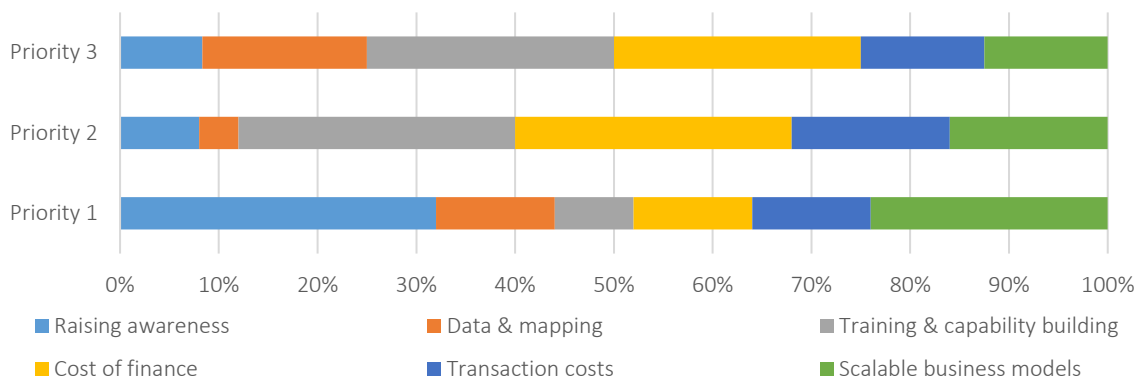
Several opportunities were highlighted during OECD and NRDC stakeholder consultations in preparation of the first CEFI Roadmap workshop on MSME energy efficiency, including:

- Increasing the continuity and replicability of past and existing initiatives, building upon lessons learned and working with the right market stakeholders to enable scale;
- Providing continued support through training and capacity building to prepare bankable projects and to carry out necessary steps, such as performing investment grade energy audits;
- Lowering cost of finance through targeted financing mechanisms like a first loss facility, potentially in combination with other concessional finance to leverage commercial capital;
- Improving data availability to boost lender confidence in MSME energy efficiency projects;
- Reducing transaction costs of financial institutions through elements like standardised documentation, which can also help to create a project pipeline (e.g. for aggregation and securitisation to access capital markets);
- Unlocking market-based solutions, including greater development of energy service companies (ESCOs) and innovative approaches such as the Smart Joules initiatives to offer efficiency services and/or products at suitable scales.

Group poll results during the workshop highlighted a number of these points as critical priorities for MSME energy efficiency. The top three priorities highlighted by the group (by individual order of priority) were: 1) raising awareness and addressing amount of “hand holding” to enable demand/appetite; followed by a tie for 2) training & capacity building (e.g. for preparing projects/documentation) and 3) cost of finance, including offering & terms of finance (e.g. need for upfront collateral; lack of cash-flow financing).

When taken collectively across the three priority areas (in terms of cumulative voting by area), the top three order changes to: 1) cost of finance; 2) training & capacity building; and 3) effective and scalable business models (including need for service/technology providers).

Poll 1: What are the top three issues you see as critical priorities for MSME energy efficiency?



Participants also indicated (beyond the above-listed six categories) other barriers/challenges for MSME energy efficiency finance and investment. One key priority that emerged was the development of customised technological solutions, for instance at the cluster level, supplemented by systematic demonstrations and adequate support to facilitate the local uptake of new solutions. Availability of trusted and skilled service providers to ensure smooth implementation and maintenance at the cluster level was further highlighted as a key success factor.

Respondents also reaffirmed multiple elements needed within the training and capacity building framework, including efforts to: create bankable opportunities; simplify documentation; and build capacity of bank officers at local/decentralised level. The need for involving more local actors (e.g. state designated authorities and MSME cluster associations) was equally noted as a way to build trust and achieve greater scale in interventions.

Written responses to the poll included additional proposals such as clearer policy and regulatory signals for MSME energy efficiency implementation. One such example discussed was to impose statewide energy efficiency targets to help accelerate technology upgradation in MSMEs, similar to the way state procurement obligations contributed to success in India's renewable energy market. The use of incentives, penalties and possible green product standards could also be an effective strategy to promote energy efficiency uptake, particularly for export-oriented MSMEs or in public procurement supply chains. Declaring energy efficiency as priority lending can also encourage banks to design and implement targeted MSME lending schemes for efficiency investments. Possible legal reforms were additionally proposed to enable entry of private ESCOs at the cluster level, as these were noted as key actors for bridging the technical and financial aspects of MSME energy efficiency.

Participants also proposed several measures to improve data availability, including: better monitoring, reporting & verification for disseminating success stories and enhancing trust; incentivising MSMEs to file energy returns to create a regularly-updated central data repository; and identifying opportunities for digitalisation in improving overall information on energy efficiency performance.

Group discussion: actions to unlock finance and investment for 2030 ambitions

Remarks by participants highlighted several important elements for achieving 2030 ambitions, such as the critical role of quality data availability to boost investor confidence and the need to scale up financing through both new and existing risk mitigation measures.

It was noted that the full extent of banking finance channelled into MSME energy efficiency is not really known, given that efficiency is often a bi-product of technology upgradation loans. Identifying and tagging energy efficiency loans can involve complex baseline studies and auditing procedures. Defining simplified tagging criteria will thus contribute to improved information on MSME energy efficiency finance.

Several measures on risk mitigation were likewise proposed to create the suitable conditions for unlocking greater private capital for MSME energy efficiency finance. For instance, the flexibility and response time of first loss facilities such as the Partial Risk Sharing Facility (PRSF) can be improved. While these schemes offer a high risk coverage, their effectiveness is hampered by potentially significant delays in funds disbursement. There is also scope for developing performance-based contracting model with ESCOs, in combination with other innovative support measures such as a payment security mechanism or energy savings insurance. Overall, ensuring the simplicity and flexibility of these mechanisms was identified as a critical success factor for any financial support scheme.

It was further noted that the new Energy Efficiency Financing Platform could serve as a centralised facilitation centre for financial support. MSMEs will be able to register interest in energy efficiency projects by providing basic details through the platform, which will then automatically screen proposals and pass them on to BEE and empanelled financial institutions for further evaluation. This can help to bridge demand and supply in the energy efficiency financing market, although awareness raising and training and capacity building are still required to ensure that the benefits of the Platform are accessible to MSMEs and related stakeholders (e.g. ESCOs). Integrating additional features such as an up-to-date dashboard of indicators on financing activities and a monitoring, reporting & verification functionality were also suggested as further additions to the Platform.

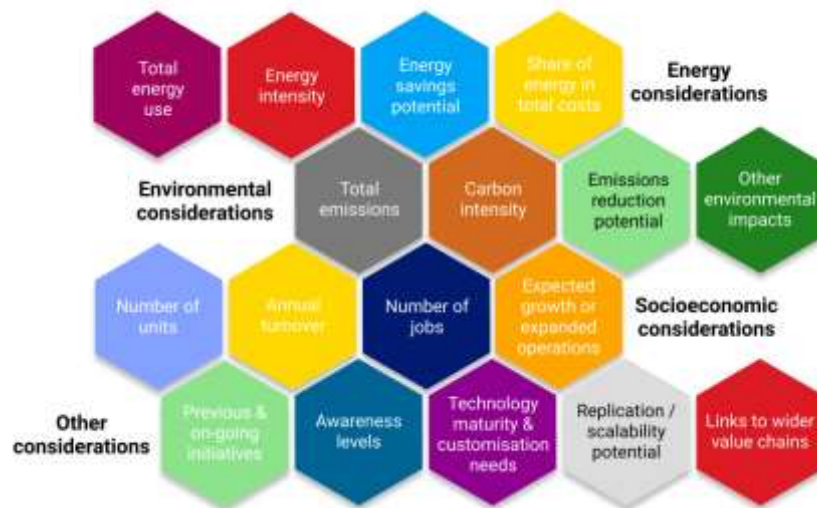
A Roadmap to improve finance and investment in energy efficiency

Enormous opportunity exists to spur green growth through energy efficiency in MSMEs, not only realising positive impacts on climate but also enabling economic multiplier effects through increased productivity, competitiveness and skilled labour creation.

Previous initiatives have taken various approaches to addressing this opportunity, given the considerable size, heterogeneity and spread of MSMEs across the country. Focus on geographic clusters of particular industries has been one effective approach ([IPEEC, 2015](#)), although awareness and uptake of energy efficiency across clusters or by similar units in different locations is still a challenge. Capacity building and dedicated finance (e.g. by multilateral partners) have similarly helped to increase familiarity and investment in energy-efficient technologies, but these have not necessarily led to replication once initiatives or financial support have concluded.

Development of a *Clean Energy Finance and Investment Roadmap* can build upon these experiences and lessons learned to help to unlock opportunities for energy efficiency measures in MSMEs. Bringing together government and stakeholders, the Roadmap will develop an action plan that identifies and addresses critical bottlenecks in order to develop tailored financing solutions and suitable investment vehicles that can help to scale up energy efficiency deployment and replication across MSMEs.

As needed, the Roadmap will also consider policy and other factors influencing MSME energy efficiency considerations. This includes the potential energy savings and environmental impacts, for example looking at clusters or segments with the highest energy intensity or with the biggest impact on emissions reduction. Other considerations include socioeconomic impacts, for instance in terms of the number of potential MSME units, annual turnover or the number of persons employed. Expected need for energy efficiency in order to adapt to evolving domestic and global value chains is another potential influencing factor.



Roadmap Background

The Covid-19 pandemic and consequent recession in India have brought forward the critical need to align clean energy ambitions with economic recovery, quickly putting people back to work while enhancing India's capacity to achieve its sustainable development goals. Aligning recovery efforts with the clean energy transition is an enormous opportunity to spur green growth, not only realising positive impacts on climate but also enabling economic multiplier effects through clean energy infrastructure development and skilled labour creation.

Enabling the prospects for sustainable recovery will require a paradigm shift in current investments, channelling commercial capital to clean energy projects and attracting overseas investors. This will require more targeted application of public finance, international climate and development finance, and related support mechanisms to increase the pipeline of bankable clean energy projects in India, redouble investor opportunities and crowd-in private sector finance.

Development of a **Clean Energy Finance and Investment Roadmap** can help India to meet this challenge. The Roadmap will bring government and private sector stakeholders together to agree upon a clear action plan that identifies and addresses bottlenecks complicating or constraining finance and investment in India's clean energy sector. The Roadmap will outline opportunities to tailor market and policy interventions to unlock further private finance, taking into account current market conditions with COVID-19 as well as emerging trends and investor expectations as financial markets look for more climate-aligned investments. In this respect, the Roadmap will evaluate investment vehicles able to attract institutional capital at suitable scale and take advantage of opportunities with international investor networks like the Climate Investment Coalition and IIGCC/AIGCC.



The Roadmap will be developed by the OECD Clean Energy Finance and Investment Mobilisation (CEFIM) team in partnership with the Natural Resources Defense Council (NRDC), under the guidance of the Government of India Steering Committee (MNRE, IREDA, MOP, BEE, MEA, DEA, Niti Aayog). It will build

upon and help support the implementation of India’s economic recovery plans and Aatma Nirabhar Bharat (Self-reliant India) ambitions. It will also complement financial sector priorities to promote sustainable practices through corporate social responsibility reporting.

The Roadmap will identify innovative financing solutions and effective investment vehicles that can help deepen local capital markets, bring in new investors and attract international capital for energy efficiency and renewable electricity. As needed, it will highlight policy and other issues that may be hindering the flow of finance, providing recommendations on potential ways to overcome these barriers and agreement on action points to implement solutions. The roadmap will work with stakeholders to develop an investment lists comprised of investment vehicles and projects suitable for institutional investors. These projects covering both energy efficiency and renewable electricity can include both primary and secondary clean energy finance transactions aimed at both domestic and foreign investors.

Roadmap Process and Stakeholder Engagement

The Roadmap will be a strategic plan that describes the steps needed to meet India’s clean energy finance and investment objectives. The process for developing the Roadmap is as important as the plan itself, as it aligns diverse stakeholders in a common course of action. The Roadmap will be developed by OECD and NRDC, working closely with the Steering Committee and bringing together stakeholders through a series of three workshops:

1. To assess critical barriers and opportunities to prioritise action that improve clean energy finance and investment
2. To identify and assess innovative solutions and effective investment vehicles that can deepen capital markets and mobilise stakeholders/investors
3. To deliberate recommended actions and build consensus on the steps forward that implement and operationalise financing tools able to attract capital at suitable scale.

Through this process, the Roadmap will endeavour to set forth a clear action plan, built on consensus, to help unlock further



finance and private capital for clean energy projects. Emphasis will be on the development of clean energy projects over the next 5 years. The Steering Committee, alongside Roadmap stakeholders, will ultimately be responsible for ensuring implementation of the Roadmap's recommended actions and in applying indicators to track progress in its implementation.

Stakeholder Consultations

To prepare the Roadmap and gather stakeholder inputs, OECD and NRDC will hold a number of consultations leading to the workshop discussions. These consultations seek to improve understanding of the needs and expectations (e.g. risk and return profiles) of key actors engaged in clean energy project development, finance and investment. This information will serve as input into the three workshops as well as to prepare pointed recommendations on Roadmap actions that can be taken to improve finance flows and attract investors for clean energy development in India.

Timeline (indicative)

- July-Aug 2021: Steering Committee and working group meetings; initial consultations to gather input
- Sept-Dec 2021: scoping of Roadmap focus and targeted consultations
- Jan-Feb 2022: finalisation of Roadmap scope and consultations on market barriers
- Feb 2022: first workshop (online event)
- Mar-Apr 2022: working group deliberations & consultations on financing vehicles
- May 2022: second workshop (hybrid event)
- Jun-Jul 2022: roadmap draft & review
- Aug/Sep 2022: final draft & workshop to deliberate recommended actions / steps forward
- Oct/Nov 2022: release in India (event tbd) and investor dialogue as part of OECD Forum on Green Finance and Investment (Paris)