Event Summary: Launch of the State of the Decentralized Renewable Energy Sector in India – Insights from CLEAN Report

On the 10th of February 2022, CLEAN hosted the launch of the "State of the Decentralized Renewable Energy Sector in India – Insights from CLEAN" report.

Keynote Address – Dr. Svati Bhogle, Chairperson, CLEAN:

The event was opened by Dr. Svati Bhogle, Chairperson, CLEAN welcoming the speakers and participants to the launch of the fifth annual report- State of the Decentralized Renewable energy Sector in India: Insights from CLEAN.

Dr. Bhogle highlighted that the sector continues to struggle with challenges such as financing, value beyond product design, supply chain disruptions, etc. She stated that it is in this context that the annual release of the State of the Sector report by CLEAN assumes a great significance. She continued by stating that over the last few years DRE has played a crucial role in improving lives and strengthening livelihoods. Further, there is a universal acceptance towards the potential of DRE but efforts towards creating a business ecosystem for DRE players is still at a very nascent stage. She acknowledged that CLEAN is making valiant efforts for an integrated approach which includes close interlinkages with livelihood activities, strong last mile distribution, financing linkages, continuing technological improvements, and a favorable policy context.

She stated that the first State of the Sector report was launched in 2017 with the backdrop of announcement of UN's Sustainable Development Goals (SDGs) and focused on addressing the challenges mentioned in the SDGs, deploying solutions via public-private partnerships to achieve the objectives of powering development for rural India.

The second edition of the report highlighted areas that required policy attention and the role of DRE in going beyond basic access to energizing livelihoods. It further provided information on the key trends in the sector. The third edition of the report was launched in 2019 and it highlighted mechanisms which all stakeholders must adopt, the role of DRE and the impact it can create through innovations and grassroot level enterprise. This edition made a compelling case for a place under the sun for DRE enterprises.

The fourth edition released in 2020 showcased the multiple DRE offerings, transitions and emerging solutions in various sectors offered by CLEAN members. It showcased how DRE businesses are run by passionate people who are committed to socio-economic growth of the unserved and underserved populations.

She concluded by saying that we now look forward to the release of the 5th edition of the report and the deliberations of the panel discussion.

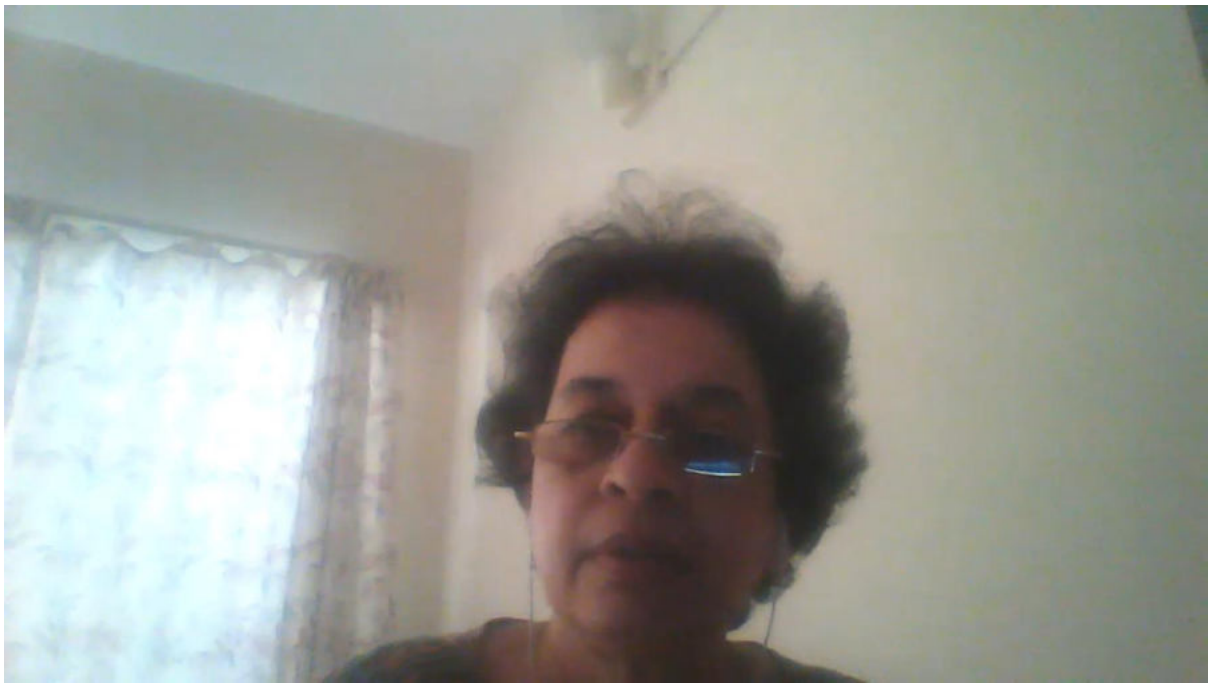

Image: Svati Bhogle

<u>Opening Remarks – Ms. Rekha Krishnan, Chief Executive Officer, CLEAN</u>:

Ms. Rekha Krishnan opened by stating that she can see plenty of opportunities arising in the sector from initiatives such as decarbonization and higher renewable energy targets. She thanked the stakeholders for joining the launch event.

Image: Rekha Krishnan

<u>Key Findings of the State of the DRE Sector in India Report – Presentation by CLEAN</u>:

Ms. Ananya Saini, Associate- Policy, CLEAN, Mr. Amittosh Pandey, Senior Associate- Technology and Ms. Rajni Jain, Associate, CLEAN presented the key findings of the report.

Image: Presentation by CLEAN

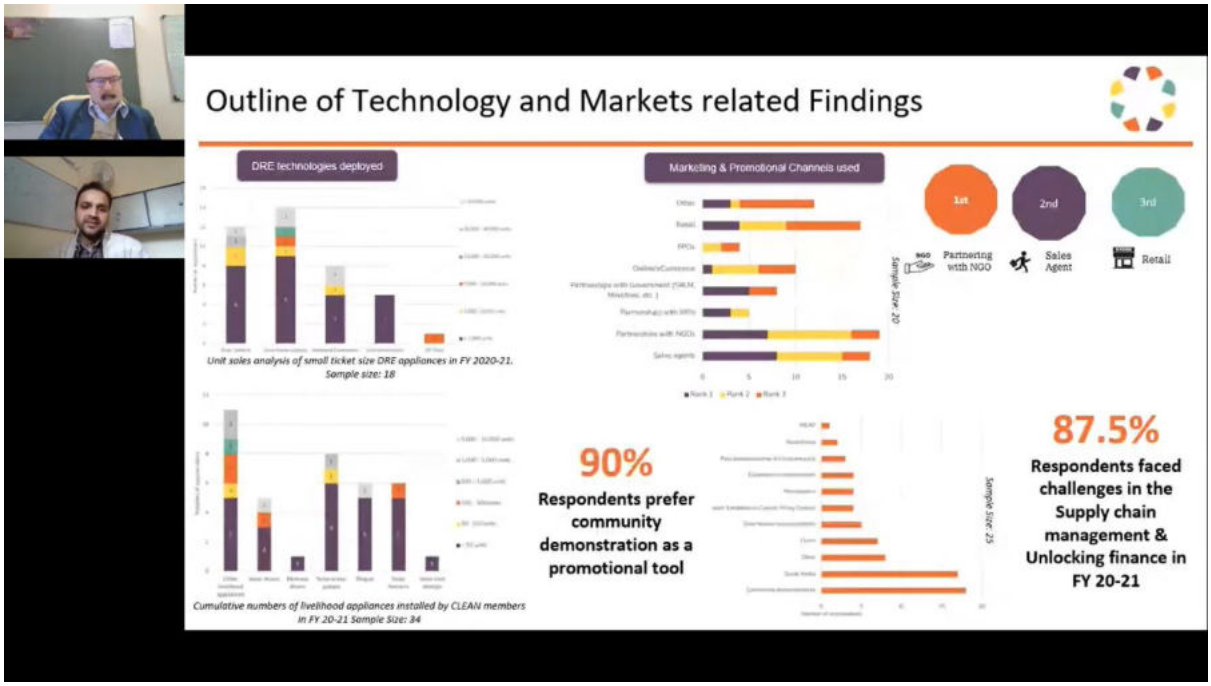

Image: Presentation by CLEAN

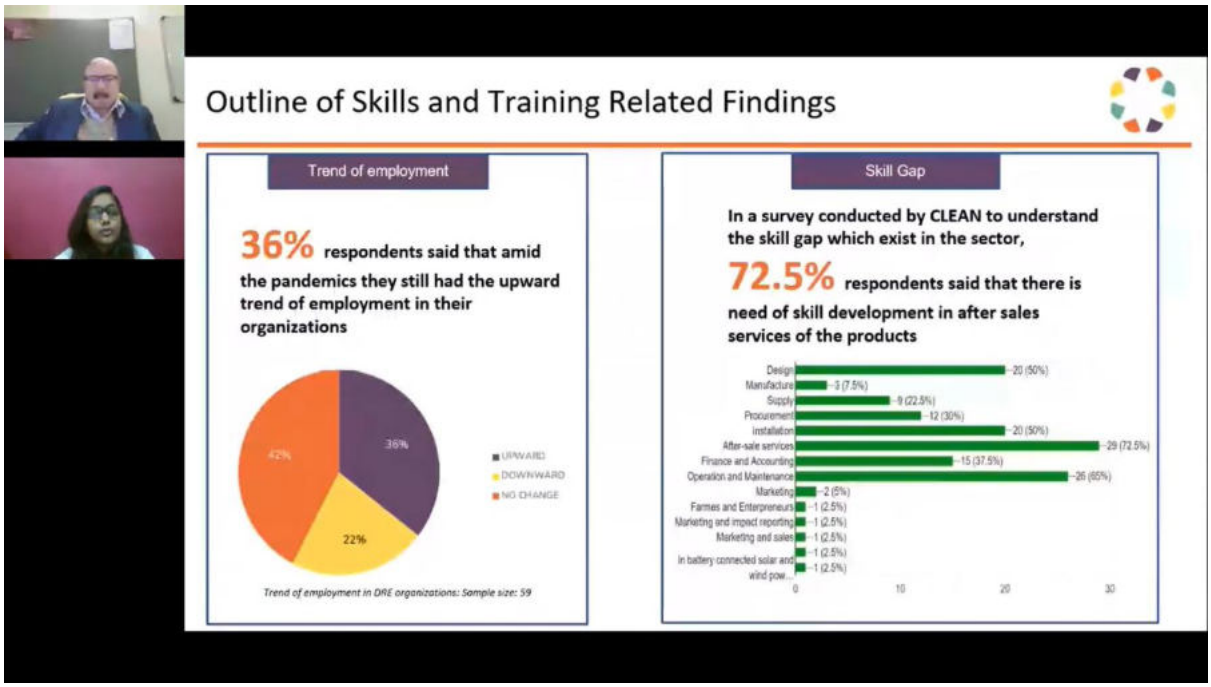

Image: Presentation by CLEAN

Key highlights of the report:

- INR 158 crores (approx.) of capital raised by 21 DRE enterprises.

- The PLI schemes announced for solar panel and battery manufacturing have received an overwhelming appreciation by the sector.
- End user finance, organization financing, and supply chain management reported as the largest challenges
- 36% respondents said that amid the pandemics they still had the upward trend of employment in their organizations
- 72.5% respondents said that there is need of skill development in after sales services of the products

Panel Discussion – Creating a Favorable Business Environment Around DRE Market Potential

Manu Maudgal	Director, Shakti Sustainable Energy Foundation	Moderator
Vinay Jaju	Managing Director, SwitchOn	Panelist
Dr. Satish Agnihotri	Emeritus Fellow, IIT-Bombay	Panelist
Ananth Aravamudan	Senior Advisor, Villgro	Panelist
Prof. Sangeetha Kohli	Professor, IIT-Delhi	Panelist
P. Satish	Executive Director, Sa-Dhan	Panelist

The final segment of the event consisted of a panel discussion highlighting how a favorable business environment can be created to further the market potential of DRE.

Mr. Manu Maudgal opened the discussion by setting context. He stated that last year the per year per capita consumption in India ranged between 50 units to 1100 units approximately. India is expected to have a rise in income levels by the year 2030 which may lead to an increase in energy consumption and usage patterns as well. He stated that the panel hopes to explore the role of DRE in addressing the increasing appetite for energy in Indian consumers.

Mr. Ananth Aravamudan, representing Villgro, highlighted that the applications which are triggered by DRE, the value chains being created, is where the scale and growth is happening. DRE enabled technologies are not just about the system, they are also about the economic activities which stem from it. Once the value chain is well established, the project becomes much more feasible economically and attracting financiers without even having to approach them in many cases. Entrepreneurs also evolve and grow to play a larger role in the value chain which they create.
It is important to explore what kind of innovative models can be achieved. It would make sense for the more expensive technologies to operate in an OPEX based model. The initial cost has to be borne by the enterprise itself.
However, these costs can be recovered for the services being provided. In terms of what is a key challenge in the external environment for enterprises and end users, he stated that finance continues to be a challenge.
For an equity investor, the exit channel is very critical; how quickly they can exit with a return. Unfortunately, the DRE sector has a slightly longer gestation period. Therefore, there is a need for

more patient capital on the equity front. On the debt front, the lack of understanding of DRE technologies leads to a sense of hesitation from financiers to plunge in. Collaterals and personal guarantees also tend to be quite higher when compared with other sectors which is pulling the sector back.

Prof. Sangeetha Kohli, IIT-Delhi, opened by stating that many times the issue is with the quality of the products. This hampers the acceptance in market. This is where academia can add value to products if healthy conversations are fostered with them. She thanked CLEAN for making efforts in this direction and mentioned that it has been a very enriching experience.
She reinstated that relationships need to be developed between entrepreneurs and academicians in order to improve quality of products from a scientific perspective. Academicians can learn from entrepreneurs the on-ground realities and then work on more finding solutions for more practical challenges which they may not have been aware of otherwise.
The micro-scale sector has been witnessing what may be termed as hit and trial deployment. Bringing in academicians can enable reduction in costs of products and improve overall performance of the products.
She elaborated further that the RuTAG initiative has taken several steps to reach out to entrepreneurs in the field however many times they do not seem to find value in the suggested solution.
She was in agreement that a service-based model for technologies with high costs would be a good way to see deployment on the ground.

Delineating on the finance in DRE, P. Satish, Sa-Dhan, highlighted that the focus has to be on both MFIs as well as large private and public sector banks to successfully build a finance ecosystem for end users. He further mentioned that DRE organization have managed to maintain good strategic relations with MFIs; specifically for solar home systems and lanterns.

Mr. Vinay Jaju, representing SwitchOn, opened by stating that it is important to understand what technologies are at what stage. As an example, he spoke of looking at technologies 3-4 years back and reflecting on which ones are ready to scale. They identified solar water pumps as showing potential. Another key reflection point was identifying whether it makes financial sense for the target consumer base to invest in a solar water pump. Further, bringing in the right and relevant set of stakeholders was key to successful implementation. A lot of knowledge products were created around this time through discussions and campaigns. What brought further value was partnering with State Nodal Agencies to support their programs; in particular the PM KUSUM scheme. He mentioned that a key step in achieving high deployment numbers was to create the Strengthening the Energy-Water-Agriculture (SEWA) network. This network brought NGO partners with a strong on ground presence who were able to disseminate the knowledge materials.
He highlighted that this model can be followed by other practitioners for deployment of any DRE technology. He further elaborated that many technologies may require subsidy support for the next few years and it is important to think of models which are able to leverage these resources successfully.

Dr. Satish Agnihotri, IIT-Bombay suggested that there is a need of peer-to-peer learning group learning, specifically of the willing people". He suggested that CITARA would be open to aiding

CLEAN in developing a platform which could facilitate learning opportunities. In the post Glasgow situation, he advised to aggressively advertise the carbon footprint reduction under DRE system. A third party organization, such as CLEAN, should actively advertise this reduction in carbon footprint.

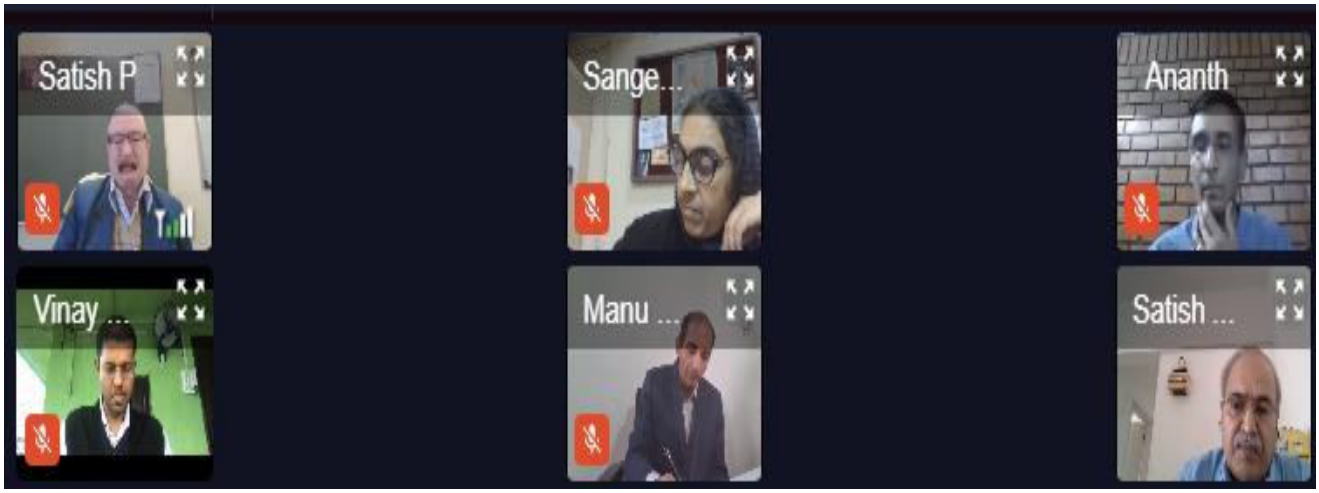

Image: Panelists

Key takeaways:

While sharing the key takeaways of the panel discussion, Mr. Manu Maudgal observed the below points:

- Scaling market is crucial to building the DRE ecosystem and necessary steps must be taken to ensure the same. Stability is required on the cost of capital front and policies to develop stronger business models which would contribute significantly to the DRE market ecosystem.

- Solar enabled DRE applications have long taken the center stage and there has been extreme reliance on all fronts on solar applications/devices. This has led to technologies and innovations (such as biomass, wind, pico-hydro) being sidelined despite the huge potential they hold to fulfill India's energy requirements.

- The DRE based solution should be tied to an application. The more productive and the more tied to livelihood the solution is, the larger is the chance of its success

- It recommends that CLEAN can initiate to bring the academicians and entrepreneurs together to improve the products and lower the cost.

- It is also advised that CLEAN can offer an information exchange platform where the groups can support each other, learn from each other and troubleshoot practices

<u>Vote of thanks – Ms. Rekha Krishnan, Chief Executive Officer, CLEAN</u>:

Ms. Rekha Krishnan extended the vote of thanks to the Ministry of New and Renewable energy and NITI Aayog for their continued support towards CLEAN. She also thanked the speakers, governing council, and the guests for attending the event.