

Sustainable energy solutions boost MSMEs' performance

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June 27 marks World MSME Day to celebrate micro, small, and medium enterprises (MSMEs). Gujarat, home to a significant 7.5% of India's registered MSMEs, stands as a testament to their importance.

However, many MSMEs struggle with outdated equipment, impacting productivity and the environment. Access to reliable information on new technologies is also a challenge.

The United Nations Industrial Development Organization (UNIDO) has taken proactive measures to promote profitable energy efficiency and renewable energy solutions in four sectors in Gujarat: brass (Jamnagar); ceramic (Himmatnagar, Morbi and Thangadh), dairy (statewide) and foundry (Ahmedabad). A total of 732 measures have been executed, with a cumulative investment of Rs 130.6 crore. These efforts resulted in annual savings of Rs 74.6 crore and a reduction of 12,100 tonnes of oil equivalent, along with the mitigation of 74,000 tons of greenhouse gas emissions.

Excel Ceramics in Morbi, for instance, installed an energy efficient IE3 motor for its ball mill at a cost of Rs 5.2 lakh, leading to cost savings of Rs 9.67 lakh and reduction in power consumption by 121,000 units annually. Eros Sanitary replaced 400 regular 70W ceiling fans with 28W fans for Rs 8 lakh, with payback in 20 months. Oswal Pottery Works in Thangadh replaced irregularly shaped natural stones with alumina grinding balls for enamel grinding at a cost of Rs 2.3 lakh, recovered in 11 months. Simandhar Ceramics reduced the thermal mass of its kiln cars, investing Rs 3.7 lakh with a payback period of three months.

In the dairy sector, Amul invested Rs 74 crore, saving 7,600 tonnes of oil equivalent with a 20.5-month payback period. Vasudhara Dairy switched from diesel to biomass boiler, recovering the investment in nine months. Gandhinagar dairy pioneered concentrated solar thermal technology for steam generation for Rs 1.5 crore, later replicated in multiple dairies nationwide.

The unfamiliarity, lack of standardization, and limited supplier access pose hurdles to adopting new technologies. Unido has standardized and validated energy-efficient technologies. In Surat textile cluster, this covered five technologies: energy efficient compressor; PLC automation of jet dyers; boiler automation; condensate recovery; and micro-turbines. Investments ranging from Rs 1.7 lakh to Rs 35 lakh have resulted in energy conservation of 15-25%, with payback periods of 1.5 years.

MSMEs play a vital role in Gujarat's vibrant economy. As India pursues carbon neutrality, embracing sustainable energy and innovation can make a significant difference for MSMEs.

(The writer is the India representative of the United Nations Industrial Development Organization, UNIDO)