

Event Report

TOWARDS ENERGY EFFICIENCY IN THE DAIRY SECTOR

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About the Event

In light of the evolving energy landscape within Nepal's dairy sector, the Nepal Dairy Association (NDA) and Swisscontact/CASA Programme organized an event titled "Towards Energy Efficiency in the Dairy Sector". The event was a response to the challenges and opportunities presented by the increasing energy demands of the dairy industry. The energy-intensive nature of dairy operations, involving significant electrical and thermal energy consumption for processes like pasteurization, chilling, and distribution, necessitates a focused intervention. The dairy industry's high energy consumption not only leads to elevated operational costs but also has tangible environmental repercussions, contributing to greenhouse gas emissions and climate change. Inspired by the successful outcomes of an energy audit conducted by S.K. Dairy with CASA's support, the event disseminated the dairy's achievements and encouraged other processors to prioritize energy efficiency. The event provided a platform for Nepal's dairy sector stakeholders to collaboratively explore and strategize solutions to enhance energy efficiency across the entire dairy value chain. By bringing together experts, industry stakeholders, and policymakers, the event also facilitated knowledge exchange and drove collective action towards a more sustainable dairy industry.

Among the 110 participants attending the event were dairy entrepreneurs; government organizations such as the Alternative Energy Promotion Centre, the Dairy Development Corporation and the Bagmati Province Ministry of Agriculture and Livestock Development; and dairy cooperatives, along with alternative energy companies, national media companies, and energy audit firms as well as dairy sector experts. Similarly, representatives from the British Embassy in Kathmandu and the Nepal Renewable Energy Programme were also present. The majority of the participants were dairy entrepreneurs from all seven provinces of Nepal.

Objectives

1. Facilitate knowledge exchange and insights on the economic and environmental benefits of energy-efficient practices in the Nepali dairy sector.
2. Provide a platform for industry stakeholders to share experiences on conducting an energy audit and implementing recommendations.
3. Promote capacity building by offering practical insights and solutions for the adoption of energy-efficient technologies in dairy operations.
4. Facilitate a moderated panel discussion to explore strategies for promoting energy efficiency in the dairy sector.
5. Enhance collaboration and networking among stakeholders for future initiatives and projects.
6. Identify policy recommendations and strategies to support sustainable energy practices in the Nepali dairy industry.

The event commenced with an opening address by Mr. Prahlad Dahal, President of the Nepal Dairy Association, setting the tone for the discussions ahead. Following this, Sijan Mainali, Senior Market Manager of the CASA Programme, provided a concise overview of the CASA's initiatives and its ongoing efforts to enhance the productivity and competitiveness of Nepal's dairy sector.

Presentation by Mr. Amrit Abhamani Dhakal, Managing Director, Rastra Urja Dakshata Kendra Pvt. Ltd.

Mr. Amrit Abhamani Dhakal delivered a presentation on energy efficiency practices in Nepal's dairy sector. He outlined global and local energy consumption patterns in dairies, emphasizing the significant energy usage in chilling systems, hot/cold rooms, and milk production. Currently, 80% of energy in Nepalese dairies is thermal, with only 20% electrical. Challenges to efficiency include waste heat, inefficient equipment, oversized machinery, leaks, poor maintenance, and lack of awareness. Mr. Dhakal stressed that adopting energy-efficient practices would cut costs, enhance resource management, boost profitability, improve equipment performance, ensure regulatory compliance, and reduce greenhouse gas emissions. He suggested immediate, short-term, and long-term measures for efficiency improvement, along with barriers and opportunities. A case study on SK Dairy Nepalgunj showcased positive impacts from implementing recommendations from an energy audit conducted by Rastra Urja Dakshyata Kendra that was supported by CASA.



Presentation by Ms. Shuva Laxmi Shrestha, Assistant Director, Alternative Energy Promotion Center (AEPC)

Ms. Shuva Laxmi Shrestha commenced her presentation with an overview of energy consumption in Nepal and AEPC's role in advocating energy efficiency. She discussed energy efficiency provisions in Nepal's Constitution, the National Climate Change Policy 2076, and the National Energy Efficiency Strategy 2018, highlighting involved institutions. Furthermore, she acquainted dairy sector stakeholders with Industrial Enterprise Act 2076 clauses offering grants and subsidies for energy-efficient practices. Ms. Shrestha elaborated on existing initiatives for industries interested in adopting energy efficiency measures. Lastly, she emphasized collaboration opportunities between the dairy industry and AEPC to enhance energy efficiency.



Presentation by Ms. Nisha Jaiswal, Technical Advisor, Nepal Renewable Energy Program (NREP)

Ms. Nisha Jaiswal delivered a presentation on accessing funding for energy-efficient projects in dairy industries through the Sustainable Energy Challenge Fund (SECF). She outlined that through the SECF industries could obtain up to 50% of the capital expenditure or a maximum of NPR 10 million for energy-efficient systems. Ms. Jaiswal detailed the application process and noted that the NREP had received 308 concept notes for SECF consideration, with 34 projects approved as of February 1, 2024. The presentation highlighted the benefits of fuel switching, advocating for the use of pellets/briquettes over firewood and pellet burners over diesel burners. She presented a cost comparison analysis between traditional fuels and pellets. Lastly, Ms. Nisha encouraged dairy industry stakeholders to seek technical assistance from NREP regarding the SECF.



Panel Discussion: Towards Energy Efficiency in the Dairy Sector



The panel discussion titled "Towards Energy Efficiency in the Dairy Sector" featured prominent panellists including Prahlad Dahal, President of the Nepal Dairy Association; Ms. Shubha Laxmi Shrestha, Assistant Director at AEPC; Mr. Dinesh Dulal, Head of Sustainable Banking at NMB Bank Ltd.; and Mr. Manoj Yadav, Director of Suryodaya Milk & Beverage Industry. Moderated by Ms. Rojy Joshi, a climate and environment expert, the discussion facilitated knowledge exchange on the economic and environmental benefits of energy efficient practices in the dairy sector, providing practical

insights into adopting energy-efficient technologies and fostering collaboration among stakeholders for future initiatives. Mr. Prahlad Dahal underscored the importance of energy audits in significantly reducing utility costs for dairies. He emphasized that adopting energy-efficient practices could lead to savings of up to 50% in energy costs. Ms. Subha Laxmi Shrestha stressed the need for raising awareness about policies related to energy efficiency. She proposed integrating these policies into financial acts for more effective implementation. Similarly, Mr. Manoj Yadav highlighted the importance of implementing energy-efficient policies practically. He emphasized the necessity of integrating energy efficiency considerations from the outset of factory establishment. Yadav also addressed the confusion among dairy sector entrepreneurs regarding the payback period of energy-efficient investments, urging prompt resolution. Likewise, Mr. Dinesh Dulal shared insights on NMB Bank's energy efficiency efforts since 2008. He focused on low-hanging fruit recommendations with a payback period of three to four years and discussed financing opportunities for investments in energy-efficient practices.

The event also included remarks from various dairy sector stakeholders. Dr. Narayan Shrestha, serving as an Advisor at the Bagmati Province Agriculture & Livestock Ministry, alongside Rajendra Adhikari, Deputy General Manager of Dairy Development Corporation, and Hem Chandra Khanal, General Secretary of Nepal Dairy Association, shared their personal insights on the necessity of embracing energy-efficient practices within dairy operations. Speaking from their experiences, they stressed the importance of tackling the existing challenges within Nepal's dairy sector while also recognizing the potential benefits of prioritizing energy efficiency. Their shared belief in the

significance of these efforts reflected a genuine desire to improve cost-effectiveness and profitability for dairy farmers, ultimately aiming to ensure the sector's sustainability and long-term success.

Resha Piya, Energy Advisor at the British Embassy in Kathmandu, shared her insights on the advantages of transitioning to alternative energy sources beyond traditional firewood and fossil fuels. She emphasized how this shift could substantially benefit dairy entrepreneurs by significantly reducing energy costs. Moreover, Ms. Piya highlighted the importance of minimizing energy loss and promoting energy efficiency, which could further contribute to cost savings for dairy businesses.

Key Takeaways and Ways Forward

To promote energy efficiency in Nepal's dairy sector, a combined effort is required. Collaboration is vital among stakeholders like the Nepal Dairy Association, government stakeholders such as the AEPC, financial sector stakeholders, programmes such as CASA, and industry representatives. Increasing awareness campaigns led by relevant government agencies and the private sector are crucial to educate dairy entrepreneurs about the benefits and funding avenues available for adopting energy efficient practices. Integration of energy efficiency mandates into regulatory frameworks can incentivize compliance. Similarly, guidance on incorporating energy-efficient technologies during factory establishment must be widely disseminated. Subsequently, continued financial support and incentives from financial institutions focusing on feasible energy-saving measures with short payback periods, will facilitate widespread adoption of energy-efficient practices, taking Nepal's dairy sector towards a sustainable future.

Following the successful conclusion of the "Towards Energy Efficiency in the Dairy Sector" event, CASA is committed to fostering ongoing collaboration with the dairy industry. Through partnerships with entities such as the Nepal Dairy Association and the Dairy Industry Association, CASA seeks to elevate awareness of, advocate for, and implement sustainable measures aimed at strengthening the resilience and sustainability of the dairy sector via enhanced energy efficiency initiatives.