

Energy Management Systems in the Food and Dairy Industries

Under the Energy Efficiency (EE) component of the Mexican-Danish Climate Change Mitigation and Energy Program (CCMEP) Denmark has co-operated with CONUEE under the PRONASGEN (Programa Nacional para Sistemas de Gestión de la Energía) to improve Energy Management Systems and supportive measures for selected mainly larger industries.

In 2015, Alpura, Grupo Bimbo and Grupo Herdez signed a Cooperation Agreement with the Danish Energy Agency in order to implement energy management systems and pilot projects for EE. The state-owned dairy company Liconsa also participated in the project.

OUTPUTS:

- Signing of agreement with food industries (Bimbo, Herdez, Alpura);
- 5 workshops on implementation of EMS, energy mapping, screening lists, pilot projects, anchoring and evaluation;
- Gap-analysis at Bimbo, Herdez and Alpura facilities to assess closeness to ISO-50001 certification;
- Closing event with participating food industries and Danish technology providers;
- Publication of a manual for EMS in food industries, published on CONUEE's web-site;
- Study tour to Denmark for food industries and CONUEE;
- Inclusion of company JUMEX in 2 pilot projects to promote interest in EMS;
- Development of a catalogue of pilot projects and good practices that can be replicated by other food industries.

OUTCOME:

- All companies are now implementing energy management systems at the selected facilities;
- Grupo Bimbo will export this successful experience to their facilities in the Mexican territory as well as to their other plants in the Americas;
- Grupo Herdez hired Danish experts to

train refrigeration technicians from all their plants in air-purging;

- Possible ISO-50001 certification and Voluntary Agreement with SENER/CONUEE;
- Other food industries can learn from the good practices implemented by Bimbo, Herdez, Alpura and Jumex.

Saving potentials, examples:

- General finding is that there is a 25% energy saving potential in the food industry in Mexico when implementing projects with less than 4 yrs. payback time;
- McCormick refrigeration optimization: (air purging – 27% saving in electricity consumption of compressor and 12% improvement in capacity);
- Bimbo Puebla: Savings: 25% electricity and 37% nat. gas – prioritized projects with payback of 2 years;
- Barilla: Savings on gas 20% and 13% improvement in capacity on the boiler tune-up; 12% savings on the Refrigeration plant;
- Alpura: Savings on gas 55% and 46% on electricity on the Pasteurizer retrofit.



The Mexico-Denmark Program has been a great ally for CONUEE and for the PRONASGEN. It has supplied hands-on practical experience, teaching systems to implement energy management in alliance with Mexican and Danish experts.

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