



## Saving Energy by Replacing Inefficient Energy Systems – New Pathways towards Energy Efficiency in Small and Medium-Sized Enterprises

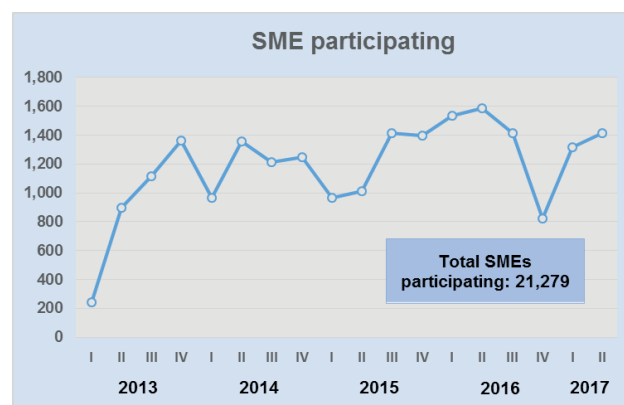
Across the world, large numbers of small and medium-sized supermarkets, restaurants and other commercial businesses rely on refrigeration technology and other electrical appliances. These are frequently inefficient, with the result that many businesses face high energy bills. Help is at hand, however, with micro-credits for the purchase of efficient electrical appliances increasingly becoming available worldwide.

To address this issue, a Mexican-German NAMA programme was implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, with funding provided by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) through its International Climate Initiative (IKI).

The IKI programme assisted in the development of Mexico's first Nationally Appropriate Mitigation Actions (NAMAs) in key sectors such as the construction and renovation of residential buildings, road freight transport and energy efficiency in small and medium-sized enterprises (SMEs).

The Mexican project Eco-Crédito Empresarial (Eco-credit for enterprises) was supported by the programme from 2012 to 2015. This involved assisting the Mexican Ministry of Energy (SENER) in establishing a credit line and providing SMEs with access to low-interest micro-credits.

The goal of the Mexican project is to improve the energy efficiency of SMEs by helping them to finance the replacement of old energy-intensive appliances with new energy-efficient technologies and to dispose of the old



appliances appropriately. The low-interest micro-credit is paid back through the energy costs saved as a result of lower consumption. This ensures that businesses not only profit from efficient electrical appliances, but also enjoy financial benefits from the very beginning.

From June 2012 to June 2017, the programme supported 21,279 SMEs, allocating credits totalling EUR 47.5 million. In terms of energy consumption, a reduction of 324 GWh was achieved through the replacement of 31,772 electrical units. This amounts to an estimated total of 161,841 t CO<sub>2</sub>e of mitigated GHG emissions per year.

Mexico's Trust Fund for Electric Energy Savings (FIDE) is responsible for the technical administration of the NAMA and, in this capacity, feeds all the data gathered into a robust MRV system that is integrated into an administration platform. The IKI programme also assisted FIDE in optimising the platform's ability to accurately estimate the energy savings by gathering ex-ante and ex-post field measurements and adjusting the reference parameters used for the calculations.

This technology-oriented climate protection initiative has been registered as the first NAMA in the SME sector in the

Mexican NAMA registry. The next step will be to add the NAMA to the UNFCCC NAMA registry.

The project concept has proven successful and can now be applied in other countries.

Maria Fernández Calderón is the owner of the restaurant 'El Pirata', located in the small town of Tulancingo de Bravo around 100 km northeast of Mexico City. She is one of the beneficiaries of the project Eco-Crédito Empresarial that was supported by the Mexican-German NAMA programme: 'Thanks to the project, I was able to replace my inefficient appliances with new ones, which I otherwise would never have been able to afford.' A refrigerator and two freezers were replaced with energy-efficient appliances in her small restaurant. Consequently, the monthly energy bill is almost 45 % lower than before, which translates into monthly savings of around €105. Doña Maria is repaying the loan of EUR 2,600 over a period of 2 years in monthly rates of EUR 74. Thus, she is financing the new appliances solely through her energy savings. The amounts are directly deducted from her energy bill.

#### Case of success: "Maño chickens"

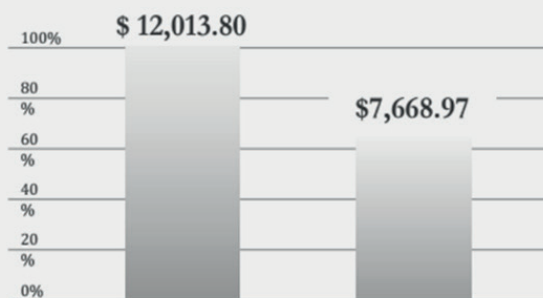
Measure implemented: Replacement of 7 vertical refrigerators for a cold room with 5 exhibition doors



- Amount financed: 9.700 EUR
- Monthly economic savings: 3.599 EUR (36%)
- Simple period of recovery of investment: 3.7 years

#### Monthly billing of electricity

Before the change      After the change



#### Imprint

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