Project Summary

Project Background
Mexico’s energy production and energy policy are shaped by fossil fuels; in the medium-term, however, the country is running short in resources. The energy sector is organised, apart from a few exceptions, on a national level; the electricity tariff is fixed by the government and subsidised through budget funds. Unfavourable conditions prevent the use of the large potential for increasing energy efficiency (EE) and renewable energy (RE). This is true for the energy sector itself as well as for energetic problems in the building sector, which represent the core problem. Mexico has already taken the first steps towards greening its residential sector through programs such as “Hipoteca Verde” (“Green mortgage”) and “Esta es su casa” (“This is your house”). Both offer supplemental loans that cover the incremental cost of energy efficient appliances in new homes.

Project Objectives
With the financial support of the BMU, the GIZ at the end of 2011 advocated the development of the „Nationally Appropriate Mitigation Actions (NAMAs)“ for new residential buildings. With NAMA for the first time in Mexico the “whole building approach” was introduced for the evaluation of the energy efficiency of residential buildings. To calculate the total energy requirement the PHPP (Passive House Planning Package) was used, because it is a recognized and well established tool for the planning of energy efficient residential buildings.

The NAMA concept now being promoted is aimed to increase the overall number of energy efficient homes built and to improve their emissions performance. Mexico and its partners have developed three performance benchmarks that can be achieved by residential building developers and home owners. Concerning increasing efficiency standards they are: EcoCasa 1, EcoCasa 2 and the Passive House. Such an approach empowers stakeholders to find the most cost effective solutions as opposed to proscribing specific technologies, providing incentives to reduce the total energy demand by taking into account the interaction of all the implemented measures.

Implementation Features
The „Mexican NAMA for Sustainable Housing“ is one of the most advanced NAMAs worldwide in terms of both technical design and institutional set-up. The government of Mexico has already invested significant national funds into the development of the NAMA and aims at additional international climate finance for its implementation. Relevant stakeholders are the CONAVI together with the Mexican Development Bank for the Housing sector and the Federal Mortgages Society.

Services Provided
• Collection and presentation of necessary information and data to define cost efficient building solutions, which apply to the specific context of Mexico;
• Adaptation of the Passivhouse Planning Package (PHPP) and creation of climate data including heating and cooling load;
• Examination of preliminary design, setting up an energy balance of three “As-Is” building types, deriving thermal quality requirements for building components;
• Evaluation of the energy balance and carrying on the consulting work to achieve target values as benchmarks;
• Elaboration of direct and indirect measures of the NAMA Design Concept for new residential buildings.

Mexico

Technical NAMA-Design, New Residential Buildings

Client
German International Cooperation (GIZ)

Duration
10/2011 - 12/2011

Personnel
• 4 internat. STE intermittent (3,5 PM)
• 1 national STE (0,5 PM)