» Promotion of energy-efficient buildings

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Stefan Hediger
Deputy Director

» KfW Bankengruppe
More than 60 years of KfW - Financing with a public mission
Indo-German Cooperation in the energy sector
A long lasting and growing partnership

Overall objective
Contributing to an inclusive, technically and economically efficient, socially and ecologically sustainable energy supply and use.

RE generation
- Support investments in RE generation
- Increase use of solar PV technologies
- Small and large hydropower

Transmission & Distribution
- Support infrastructure for the transmission and distribution sector
- Grid integration of RE

Energy efficiency
- Promote EE in public infrastructure, agriculture, industry and residential buildings

Access to energy
- Establish successful business model for rural electrification
- Introduce new loan products in the banking sector

Financing Instruments for Energy Efficiency – Examples
- District Energy Systems – Efficient and Environment Friendly Cooling

Climate and Environment Protection (EE improvements and GHG reduction goals)

EE Residential Housing programme (50 m) - NHB
- Financial Intermediary – labelling approach
- EE achieved as compared to reference building case
- Individual home loans refinanced through PLIs
- Star labelled window air conditioners included

Green Industrial Parks (40 m) – APIIC and TSIIC
- Direct Financing
- New and existing parks (green field and retrofit)
- Common infrastructure/individual units (utilities; potential cooling

Energy efficiency in SME (50 x 110 m) SIDBI
- Financial Intermediary
- EE in processes, equipment
- ESCOs
- Efficient cooling included

EE in Public Buildings and Infrastructure - EESL
- Direct - ESCO model
- Lighting, Cooling, and other interventions
- Energy savings through bulk procurement

Districting cooling systems within smart city concept
Direct or Financial Intermediary or ESCO
Projected Timeline | Demographic Changes
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By 2050 | World’s population will reach 10 Billion
By 2050 | 66% of the world’s population will live in urban areas, up from 54% today
By 2030 | 40% of India’s population will be living in urban areas (current 33%), increasing to 50% by 2041

- Housing sector accounts for nearly 40% of energy consumption
- Populations in emerging markets are creating a huge demand for homes that need to be both affordable and green
- Significance grows in the context of priorities for urbanization, housing for all goals, Smart cities

Promotional programs for residential buildings

Overview

New Homes

- Energy-efficient Construction
  - Loan

Modernisation of Building Stock

- Energy-efficient Rehabilitation
  - Loan / Grant
- Barrier-reduced Conversion
  - Loan / Grant

KfW programs

- KfW Home Ownership Programme
  - Loan

Promotional programs can be combined

Energy-Efficiency
Barrier Reduction
Home Ownership
Development of energy-efficient construction standards

Primary Energy Demand for Heating [kWh/m²a]

-regulatory requirements

WSVO 1977
WSVO 1984
WSVO 1995
EnEV 2002, 2007
EnEV 2009
EnEV 2014

usual market standards


source: KfW / IBP, Erhorn
example for typical one-family house

1. Promotion of EE in Residential Buildings in Germany

Energy efficient construction

The higher the level of energy efficiency achieved, the higher the level of promotion

Interest-rate 1.21% p.a. (effective)**

Annual primary energy demand (OP)
(in % of the reference building of EnEV 2014)

Transmission heat loss (HT)

KfW-EH 40 Plus
KfW-EH 40
KfW-EH 55
EnEV 2014

5% 10% 15%

Repayment bonus

** * 01.04.2016 loan amount max. EUR 100,000 per housing unit
KfW – NHB partnership

Indo German cooperation - Transfer of know how

New programme; gradual start (2008 - 2013); Line of Credit of € 50 million on 31st Dec'2010 with technical assistance grant of €1.5 million.

€ 90 million utilized
6 Flats
2,005 townhouses (162 towers)
1,356 MNFWP, energy savings 33,800 tonnes CO2 avoided

Snapshots of some EE Certificates
**Key lessons**

- Enhancing EE building stocks require incentives and enforceable regulations.

- Effective coordination for linking finance to Energy Efficiency for housing needed - in designing incentives, framing regulations, and implementation needed.

- TA focus – certification, awareness, marketing of loan product – label, communication strategies – costs, environmental benefits, etc.

**Contact:**

stefan.hediger@kfw.de