Catalyzing EE Financing – Success Stories

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Germany
1. KfW’s role in the German „Energy Turnover“ – Energiewende
2. KfW’s role abroad: EE financing – project example
3. Success Factors
KfW’s role in German „Energy Turnover“ - Energiewende
Supporting Renewable Energy and Environmental Investments, Energy Efficiency

Reduction of primary energy consumption
- 20% till 2020
- 50% till 2050
KfW’s role in German „Energy Turnover“ - Energiewende
Proven and successful business model

Customer

Financing partner

KfW

Capital market

Promotional mandate
 Defined by KfW Law

State liability
 Institution owned by Federal Republic and federal states
KfW’s role in German „Energy Turnover“ - Energiewende
Energy Efficiency Financing

**Private Persons**
- KfW Programme Energy-efficient Construction and Rehabilitation

**Industry**
- KfW Programme Energy-efficient Construction and Rehabilitation
- KfW Programme Energy-efficient production facilities/-processes

**Municipalities**
- KfW Programme Energy-efficient Construction and Rehabilitation
- KfW Programme Energy-efficient refurbishment of municipal infrastructure
KfW’s role in German „Energy Turnover“ - Energiewende
Energy-Efficient Construction in the Residential Sector

Energy efficiency

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

KfW-EH 55
KfW-EH 40
KfW-EH 40+

Annual primary energy demand ($Q_P$) (in % of the reference building of EnEV)

Transmission heat loss ($H_T'$)

55 % 40 %
40 % 55 %
55 % 70 %

Subsidized Interest Rate + Repayment bonus

5 % 10 % 15 %

› Incentives require higher efficiency standards than legal framework
  → installation of thermal insulation, heating technology using RE, replacement of windows etc.

› Loans of EUR 100,000 per housing unit at favourable conditions

KfW Research 2018
KfW’s role abroad
KfW Development Bank: Support partner countries with protecting the environment and climate

Project example: the EE Homes Programme India

- Residential sector in India contributes to around 24% of total electricity consumption which is expected to grow by 5 to 6 times by 2030

- Huge opportunity for conversion of efficient housing to energy efficient housing - measures may be adopted upfront or as retrofit

- Line of credit to National Housing Bank (NHB) to refinance loans for energy efficient houses

- Technical assistance: develop energy efficiency calculation tool, certify buildings, support in implementation and advise NHB, financial intermediaries, architects and building developers
Project Example
Energy Efficient Homes Programme in India

What can be financed?

- Energy Efficiency Enhancement through **passive measures** (building envelope; hollow bricks, roof installations, shading, windows-to-wall ratio etc.)
- Programm criteria for only passive measure: Energy need at least 18% lower than benchmark building
- Energy Efficiency Enhancement through **active measures** (EE appliances, solar water heater etc)
- Programm criteria for passive PLUS active measures: Energy need at least 30% lower than benchmark building
Project Example
Energy Efficient Homes Programme in India

- Adaptation of EU-energy performance assessment tool to India by Fraunhofer Institute

Impacts
- 400 buildings certified (> 20,000 apartments or > 2 million m²)
- Overall energy savings of > 40,000 MWh
- Emission reductions of > 37,000 t CO2 p.a.
- Increased awareness for energy efficiency in residential sector
Catalyzing EE Financing – Success stories
Success factors I

<table>
<thead>
<tr>
<th>1</th>
<th>Framework Conditions: level of energy prices, availability of EE infrastructure (products, advisors), regulatory framework</th>
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| 2 | Availability of public budget  
  ➢ **Long term availability** of public funds for promotional programs creates the basis for customers investment planning  
  ➢ **Incentives** – manage limited public budget carefully |
| 3 | Awareness raising  
  ➢ maintaining an ongoing stakeholder information & dialogue across the entire spectrum of stakeholders |
| 4 | Stability and attractiveness of promotional product offer  
  ➢ High degree of standardisation  
  ➢ terms and conditions must account for the increased burden of managing EE financing (appraisal, monitoring requirements)  
  ➢ Simple products to reduce transaction cost and increase understanding |
### Catalyzing EE Financing – Success stories

#### Success factors II

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<thead>
<tr>
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<th><strong>Use software products for CO2 monitoring</strong> for facilitating appraisal and monitoring of EE investments, correct use of software should be incentivised</th>
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<tbody>
<tr>
<td>5</td>
<td>For <strong>non-standardised investments</strong>, engagement of energy advisor is obligatory</td>
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<td><strong>Training</strong> for loan officers</td>
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<td>6</td>
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<tr>
<td>7</td>
<td>➢ <strong>Additionality</strong>: EE financing should trigger additional EE-investment</td>
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</tbody>
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2012: Construction of EE homes in Bangalore
Thank you for your attention

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