

»» Promotion of energy-efficient buildings

New Delhi, 03.03.2017


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Deputy Director






Bank aus Verantwortung 

»» KfW Bankengruppe

More than 60 years of KfW - Financing with a public mission



Domestic promotion		International business	
We promote Germany		We support internationalisation	
<p>Mittelstandsbank</p> <p>Promotion SMEs, business founders, start-ups</p>	<p>Kommunal- und Privatkundenbank/ Kreditinstitute</p> <p>Promotion of housing construction and refurbishment, improved accessibility and education</p> <p>Financing of municipal infrastructure and global loans</p>	<p>KfW IPEX-Bank</p> <p>International project and export finance</p>	<p>We promote development</p> <p>Business Area KfW Development Bank/ DEG</p> <p>Promotion of developing and transition countries</p>
Promotion of environmental and climate protection			
			

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»» 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

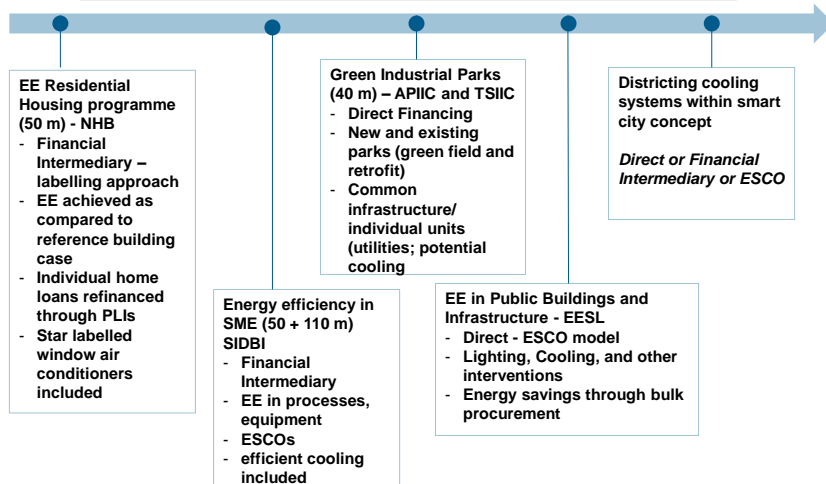
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»» Financing Instruments for Energy Efficiency – Examples

› District Energy Systems – Efficient and Environment Friendly Cooling

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



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»» EE potential

Projected Timeline	Demographic Changes
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

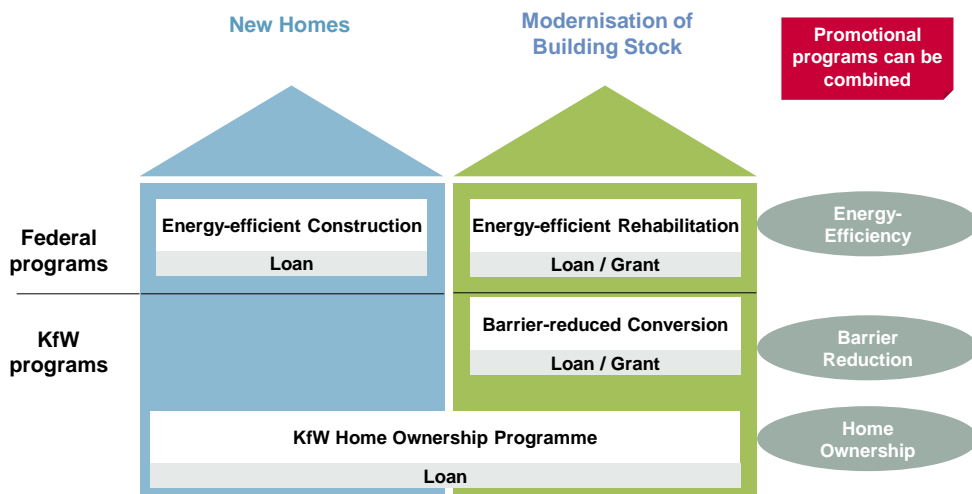
- Housing sector accounts for nearly 40% of energy consumption
- Populations in emerging markets are creating a huge demand for homes that need to be both affordable and green
- Significance grows in the context of priorities for urbanization, housing for all goals, Smart cities

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»» Promotional programs for residential buildings

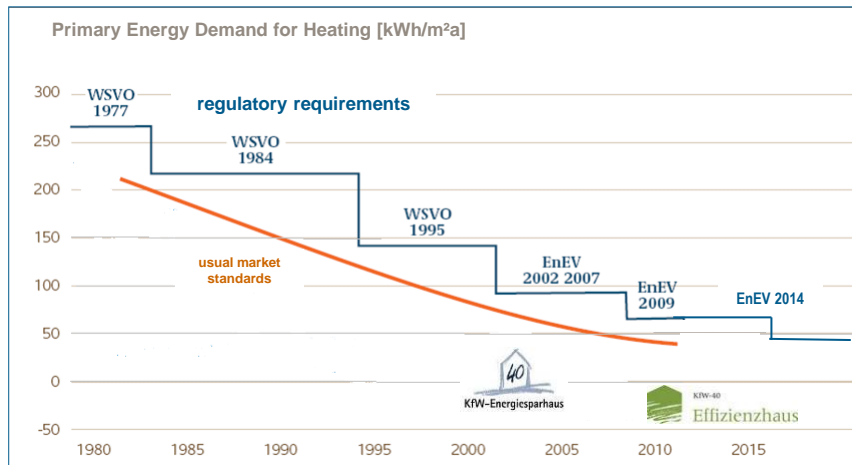
Overview



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»» Development of energy-efficient construction standards

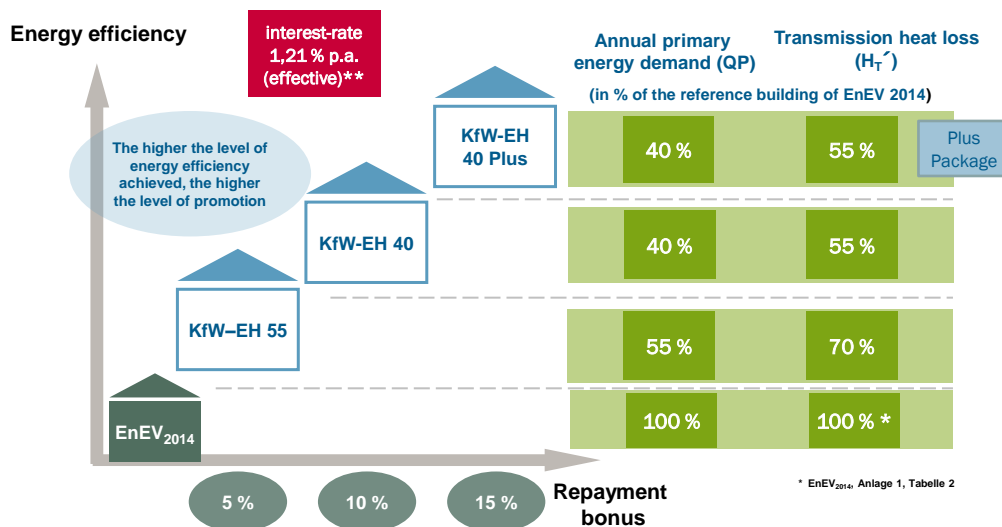


source: KfW / IBP, Erhom
example for typical one-family house

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»» 1. Promotion of EE in Residential Buildings in Germany Energy efficient construction

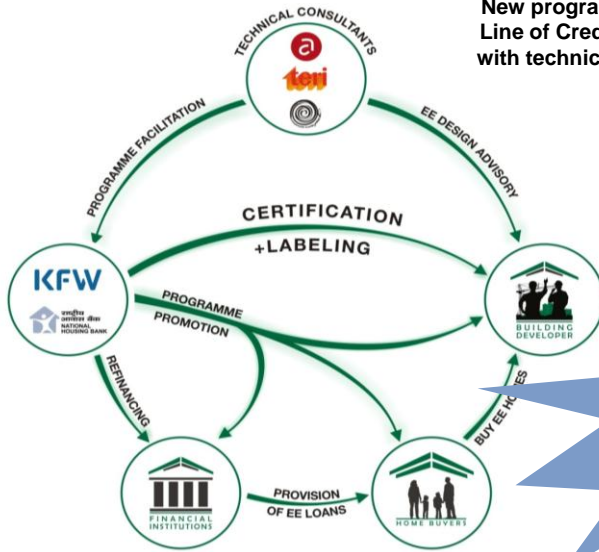


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»» KfW – NHB partnership

› 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.



€ 50 million utilized
6 PLIs
2,065 loans
21,577 residential units (162 towers)
1,864 MWh/p.a. energy savings
32,800 t/p.a. CO2 avoided

»» Snapshots of some EE Certificates



Project: Sahara City Homes –Type C																												
Building:																												
Address of project:	Table of results - Electrical energy in kWh/m ² yr:																											
Village Handa By Pass Road, Near IM, Lucknow, Uttar Pradesh 226020	<table border="1"> <thead> <tr> <th></th> <th>This building</th> <th>Reference building</th> </tr> </thead> <tbody> <tr> <td>Internal lighting</td> <td>12.81</td> <td>12.81</td> </tr> <tr> <td>Common lighting</td> <td>1.54</td> <td>1.54</td> </tr> <tr> <td>Parking lighting</td> <td>0.00</td> <td>0.00</td> </tr> <tr> <td>Cooling</td> <td>26.27</td> <td>36.60</td> </tr> <tr> <td>Heating</td> <td>3.25</td> <td>3.25</td> </tr> <tr> <td>Hot water</td> <td>6.97</td> <td>11.16</td> </tr> <tr> <td>Cooling fans</td> <td>1.74</td> <td>1.74</td> </tr> <tr> <td>Appliances</td> <td>26.00</td> <td>26.00</td> </tr> </tbody> </table>		This building	Reference building	Internal lighting	12.81	12.81	Common lighting	1.54	1.54	Parking lighting	0.00	0.00	Cooling	26.27	36.60	Heating	3.25	3.25	Hot water	6.97	11.16	Cooling fans	1.74	1.74	Appliances	26.00	26.00
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Occupant/Owner:																												
Building parameters:																												
Building type:	Residential building																											
Total building area:	6,174.00 m ²																											
Climatic zone:	New Delhi																											
Created with:	EnEffResBuild India Version 0.9.1.0																											
Consumption of electrical energy in kWh/m²yr:																												
This building: 42 kWh/m ² yr																												
Reference: 61 kWh/m ² yr																												
Savings: 32%																												
Energy stress considered for the loan application: <input checked="" type="checkbox"/> Internal lighting <input checked="" type="checkbox"/> Common lighting <input checked="" type="checkbox"/> Cooling <input checked="" type="checkbox"/> Heating <input checked="" type="checkbox"/> Hot water <input checked="" type="checkbox"/> Cooling fans <input checked="" type="checkbox"/> Appliances																												
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Consumption of electrical energy in kWh/m²yr:																												
This building: 50 kWh/m ² yr																												
Reference: 58 kWh/m ² yr																												
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Energy stress considered for the loan application: <input checked="" type="checkbox"/> Internal lighting <input checked="" type="checkbox"/> Common lighting <input checked="" type="checkbox"/> Cooling <input checked="" type="checkbox"/> Heating <input checked="" type="checkbox"/> Hot water <input checked="" type="checkbox"/> Cooling fans <input checked="" type="checkbox"/> Appliances																												
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»» 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.



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