

Promoting Energy Efficiency and Energy Services

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I. KfW Banking group Introducing ourselves



- Promotional bank of the Federal Republic of Germany
- Founded in 1948
- Shareholders: Federal Republic of Germany (80%), German federal states (20%)
- Headquarters: Frankfurt am Main; branch offices: Berlin and Bonn
- Representative offices: 50 offices worldwide
- Business activities in 90 countries
- Balance sheet total at end- 2006: EUR 360 billion
- Promotional Volume 2006: EUR 77 billion
- Employees in 2006: 3,900
- Rating: AAA/Aaa/AAA.

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I. KfW banking group brand structure



Promotion of housing,
environment and
climate protection, education,
infrastructure, social issues



Promotion of SMEs,
business founders,
start-ups



Export and project finance



Promotion of developing
and transition countries



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II. How we promote (1)

- sources

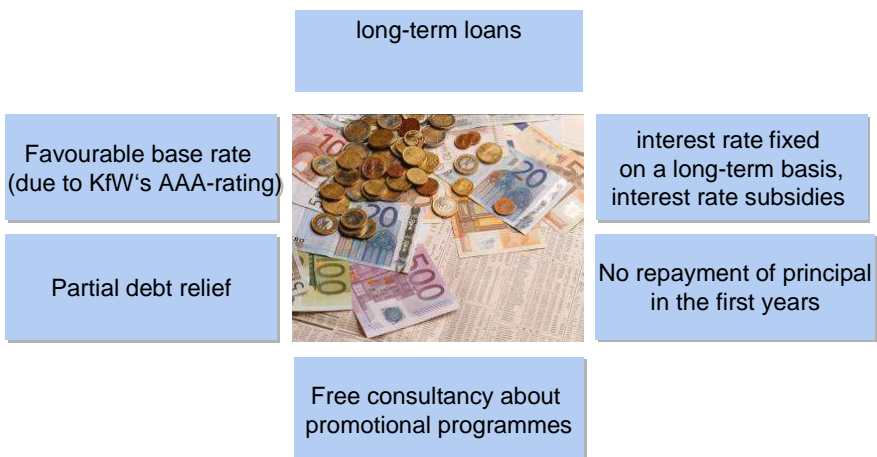


- Earnings of KfW banking group (AAA, no dividends to shareholders, exempted from income taxes)
- Federal budget
- State guarantee

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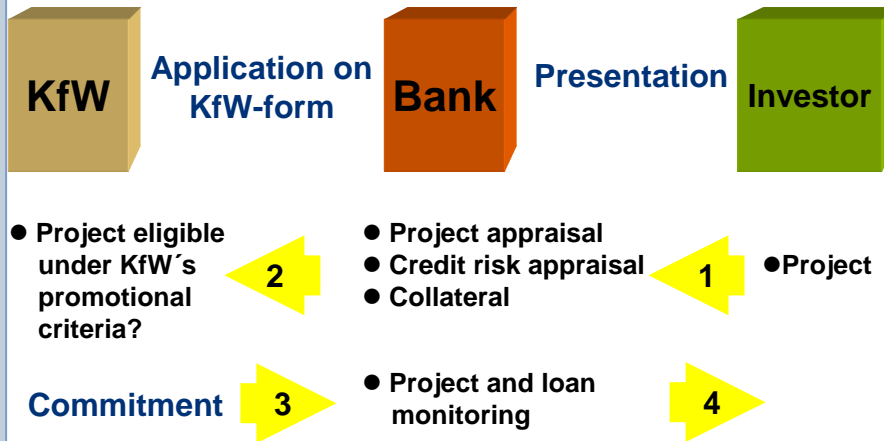
II. How we promote (2)

- instruments



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II. How we promote (3) - procedures



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II. How we promote (4) Eligibility for contracting



- Contractors invest in facilities
- Contractors finance investment with subsidised loans
- Contractors bear economic risks
- Contractors operate facilities
- Contracting period is at least as long as the loan term
- Contractors' clients must benefit from interest subsidy
- e.g. via lower contract prices
- Contractors must provide evidence that interest subsidy has been transferred to their clients

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II. How we promote (5) – investment in ESCOs



- **Berliner Energieagentur GmbH**
 - KfW benefits from its regional experience with concrete projects
 - KfW holds 25% of the shares
- **dena - The Deutsche Energie-Agentur GmbH**
 - German competence centre for energy efficiency and renewable energies
 - Initiates, coordinates and implements innovative projects and campaigns
 - Provides information to end-consumers
 - Develops strategies for the future supply of energy
 - KfW is a shareholder together with the Federal Republic of Germany

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III. Energy efficiency of existing residential buildings (1)

Why to save energy in residential buildings?



- Reducing costs for heating.
Price increase of fuel oil in Germany from November 2006- November 2007
= 21 %.
- Keeping hold of the added value in the country! Buying European energy efficiency products and services and creating jobs that way.
- Climate protection! Reducing the energy-induced discharge of greenhouse gas. CO₂-emission of private households in Germany in 2004 = 116 mio. tons out of 886 mio. tons.

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III. Energy efficiency of existing residential buildings (2)

Need for rehabilitation



- Number of residential buildings in Germany 2006 17.3 million
- Number of flats in 2006: 39 million
- Heating of flats and heating up of domestic water account for 26.7 % of total energy consumption in Germany
- Flats completed prior to 1984 (need for energy rehabilitation) 31 million flats
- Already rehabilitated 6 million flats
- Need to be rehabilitated 25 million flats

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III. Energy efficiency of residential buildings (3)

Actual demand



- Between **600,000 and 775,000** flats are modernised annually in Germany.
- Of those between **200,000 und 300,000** substantially reduce the energy consumption.
- In 2006 KfW financed **156,000** of these complete rehabilitations .

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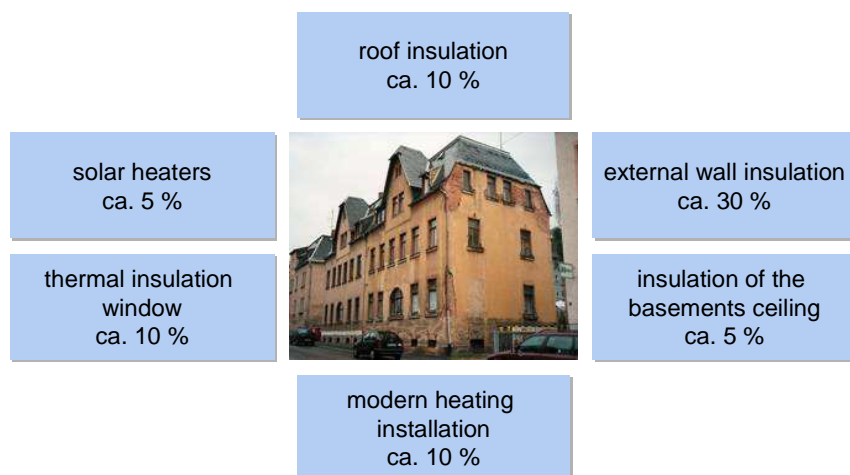
IV. CO₂ Building Rehabilitation Programme (1) Framework



- 2002/91/EC: Directive on the Energy Performance of Buildings
- Directive 2006/32/EC on Energy End-Use Efficiency and Services
- New Energy Saving Ordinance from July 2007 (EnEV).
- EnEV provides standards for primary energy consumption and transmission losses through the shell of the building.
- Energy Performance Certificate for Buildings.

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IV. CO₂ Building Rehabilitation Programme (2) savings capacity



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IV. CO₂ Building Rehabilitation Programme (3)



Suitable for everyone who wants to substantially reduce the energy consumption of an old building.

Old building meets the new building standards after the rehabilitation. Residential buildings, that were completed until 31 December 1983 (Category A)



Old building reaches a level that is more than 30 % below the new building standard. Residential buildings, that were completed until 31 December 1994 (Category B).

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IV. CO₂ Building Rehabilitation Programme (4)



Example: Rehabilitation up to an energy level of 30 % below the new building standard

- free choice between loan or subsidy
- current interest rate: 1.76 %

preferential interest rates and partial debt relief	subsidy for detached or semidetached houses or owner-occupied flats
loan up to EUR 50,000 for each accommodation unit + 5 % partial debt relief or + 12.5 % partial debt relief	10 % subsidy; maximum: EUR 5,000 or 17.5 % subsidy; maximum: EUR 8,750

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IV. CO₂ Building Rehabilitation Programme (5) Impact



- 43,415 credit approvals and grants for 3.477 billion EUR
- Employment effect: 65,000 person-years/ 18.3 person-years per 1 million capital investment / 67% in SME's
- Long-lasting annual CO₂-reduction: 700,000 tons; thereof 115,000 in the ETS-sector
- Specific CO₂-reduction in promoted buildings: 60%
- Heat generation was updated in 75 % of cases, thereof 15 % biomass, 8 % heat pumps and 3 % co-generation
- Long-lasting annual energy saving: 1,52 billion kWh

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V. CO₂ Building Rehabilitation Programme Lessons learnt (1)



- High quality results are only possible through a comprehensive rehabilitation approach accompanied by a qualified energy advisor and based on ambitious energy saving standards instead of selected measures.
- The programme is economic efficient (study from Oktober 2007 by Fraunhofer ISI, Öko-Institut, Forschungszentrum Jülich).
- The programme leads to a crucial increase of the german rehabilitation rate in the field of existing residential buildings.
- Nevertheless the recent rate accounts for only 1.2% of all existing german residential buildings.
- For comparison: the objective of the german federal government is to increase this rate up to 5% p.a..

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V. CO₂ Building Rehabilitation Programme

Lessons learnt (2)



- ESCO's needed to increase rehabilitation rate
- Promotional programmes should be made more attractive for ESCO's and should consider better support of contracting
- ESCO's should improve their services and consider extended services and a comprehensive approach like complete rehabilitation of buildings

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Energy efficient KfW office building (completed in 2002)



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Energy Performance Certificate KfW Ostarkade

