

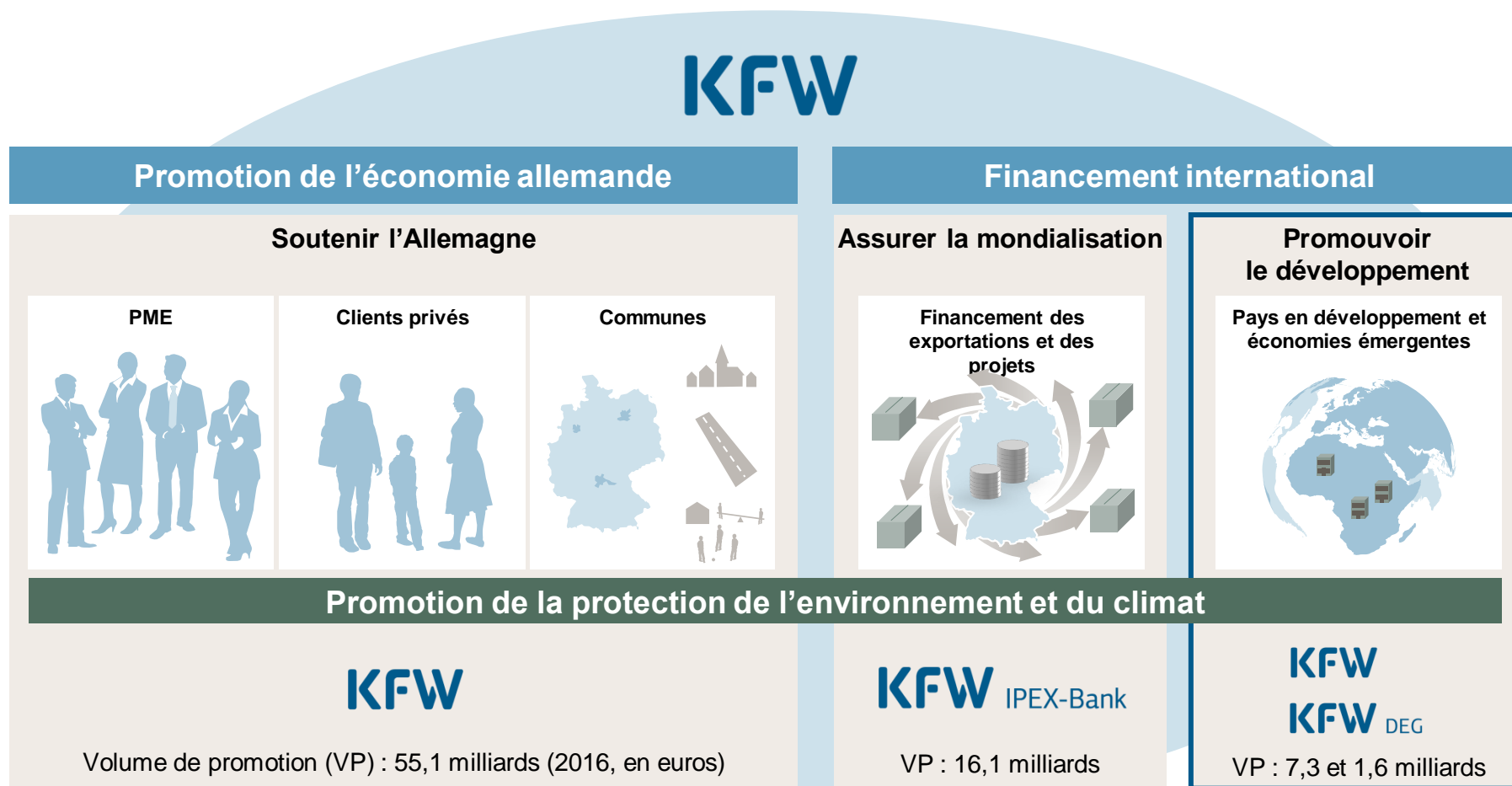
»» Financement public de l'efficacité énergétique

Johannes Kannicht, KfW Development Bank

Bank aus Verantwortung

KFW

»» La Banque de Développement dans le cadre du Groupe KfW



› Différences dans les totaux du fait des arrondis

»» Le défis

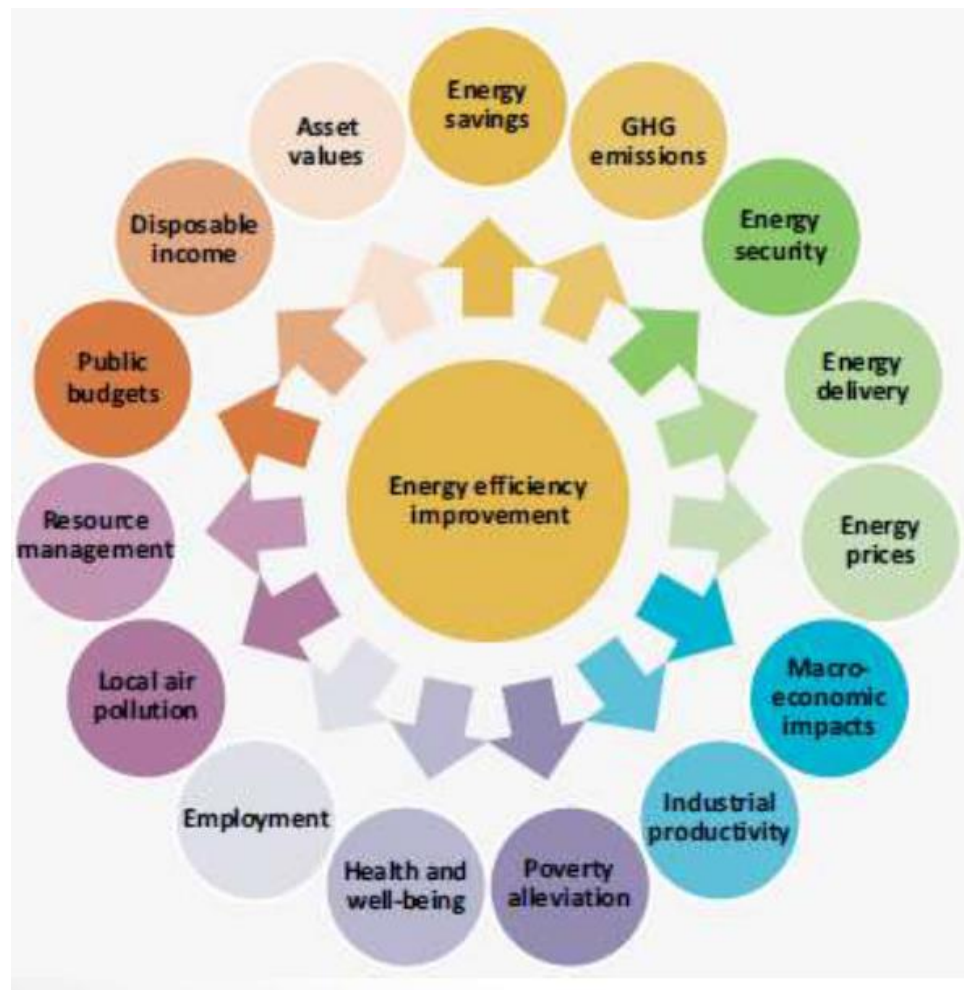


»» L'objectif



»» Efficacité énergétique: multitude de bénéfices

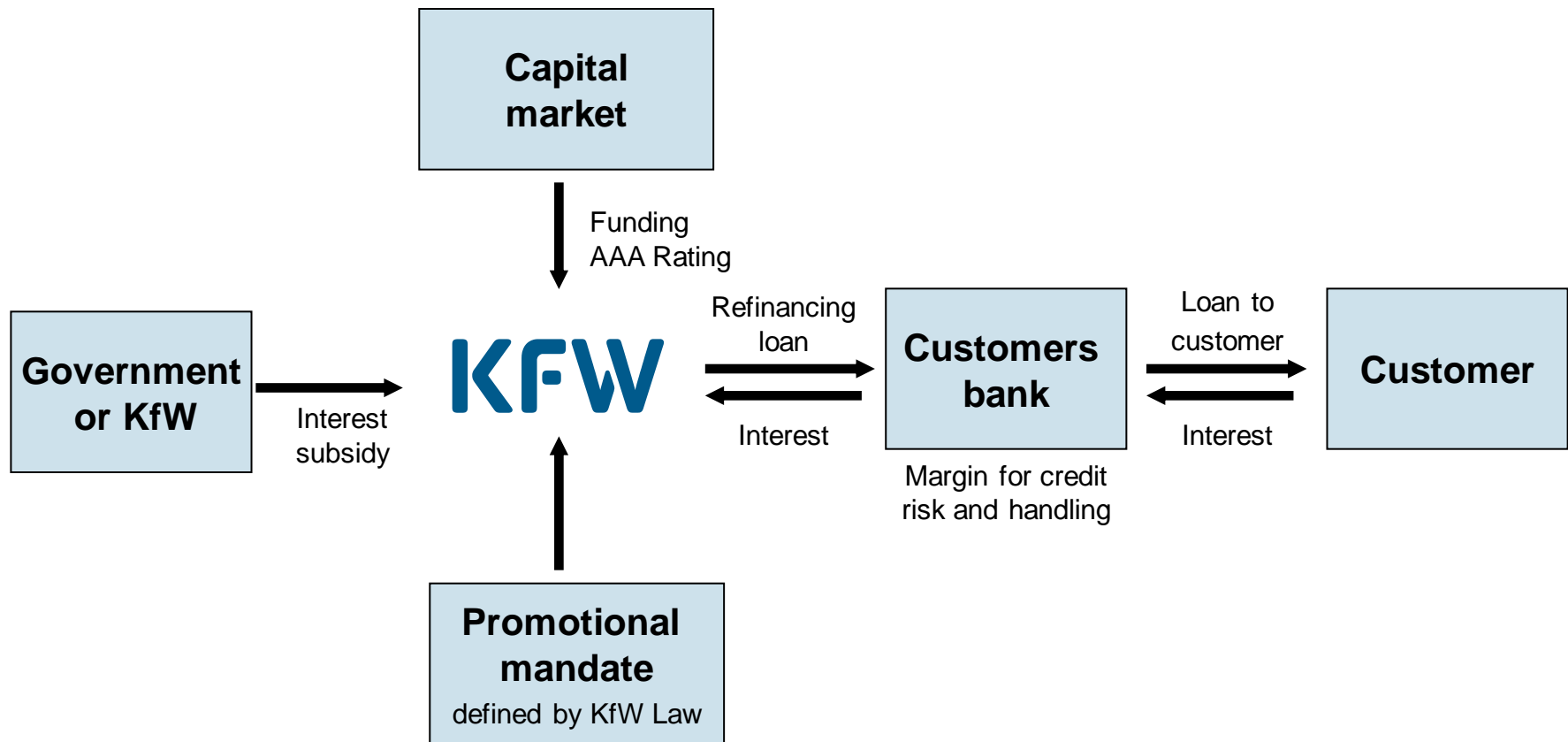
EE = « first fuel »



»» Financement des ménages privés en Allemagne

Modèle d'affaires à succès

Refinancement de la KfW et rétrocession par les banques commerciales



»» Leçons tirés: EE dépend 'un système d'incitation fort

„Information et
guidance“



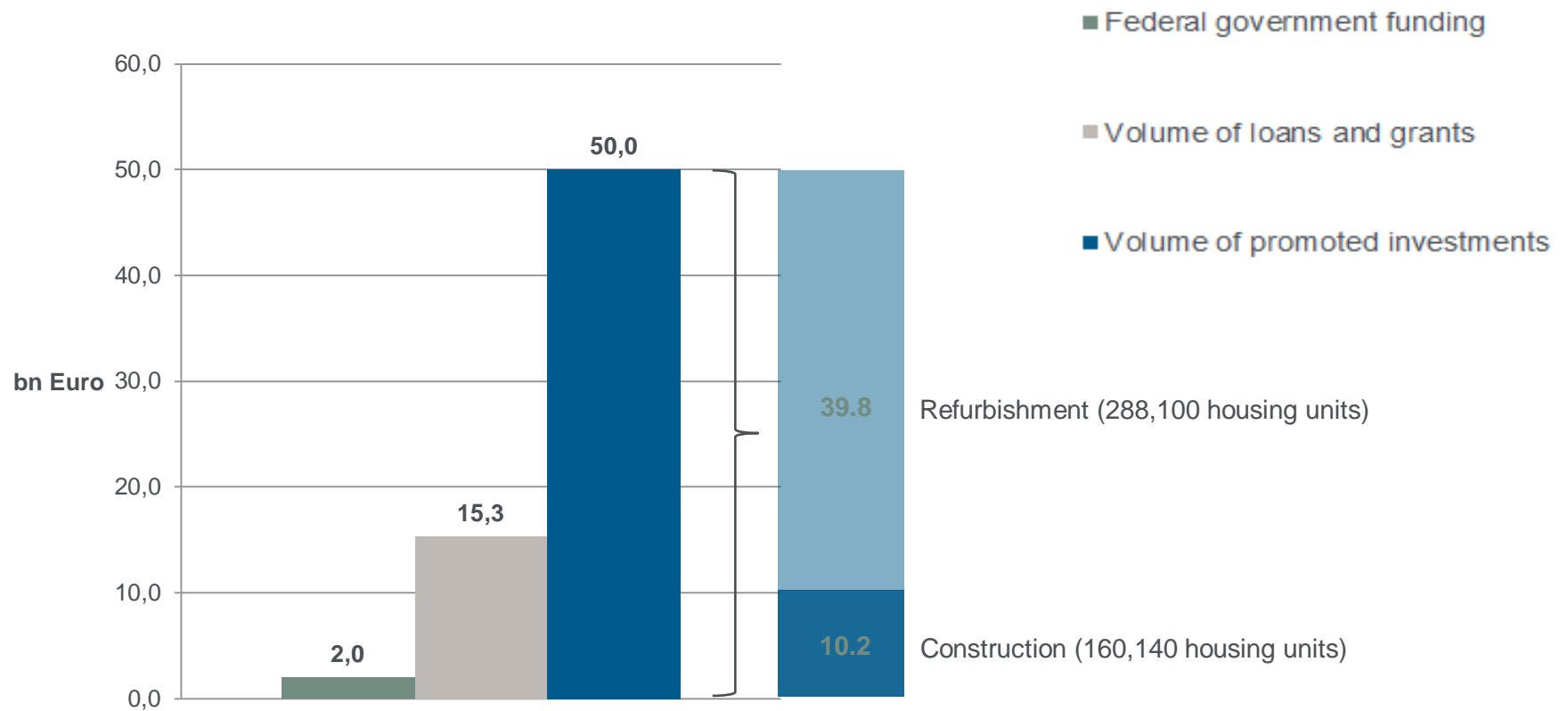
„Programmes de
Promotions“

Législation, régulations et standarts techniques

Prémises pour l'efficacité énergétique dans la production, les services,
la construction et la rénovation des bâtiments

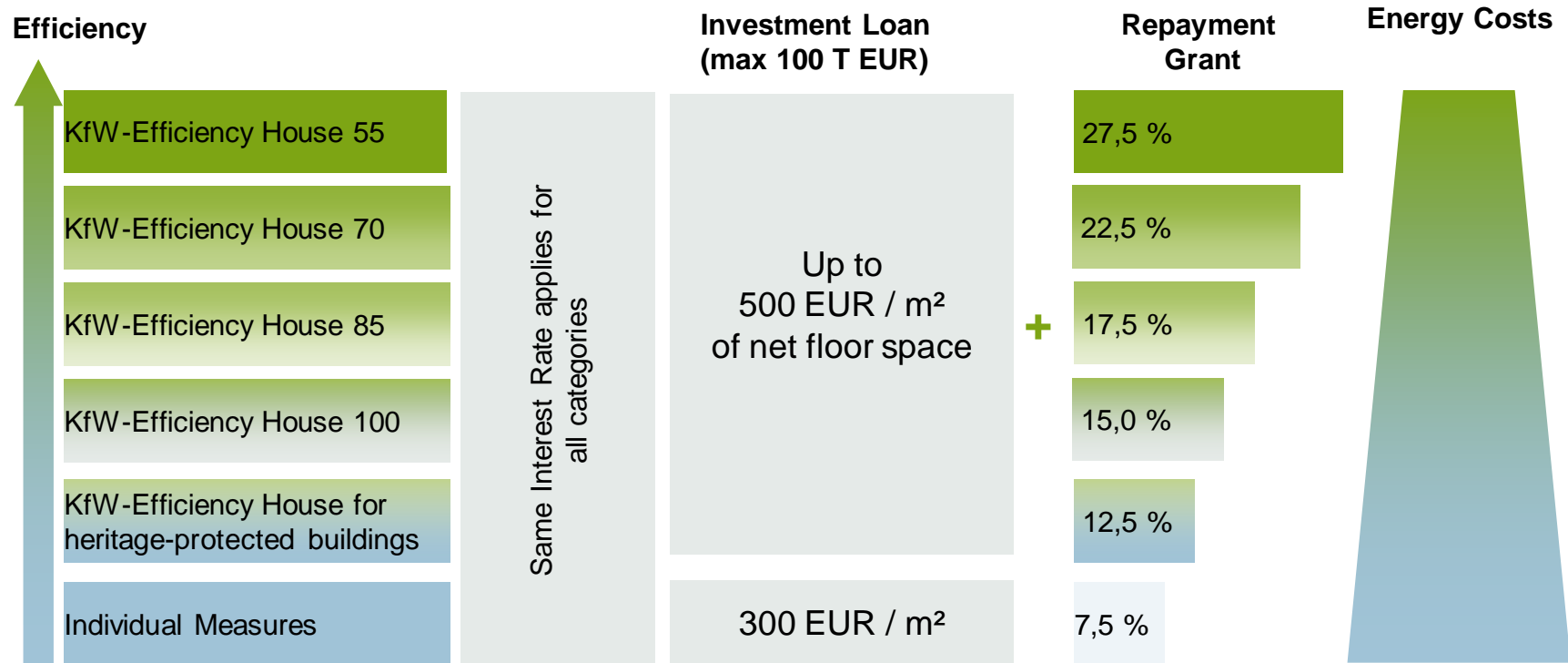
»» Leçons tirés : Les investissements publics peuvent catalyser des investissements privés

KfW Programmes for Energy Efficient Construction and Rehabilitation in Germany in 2016



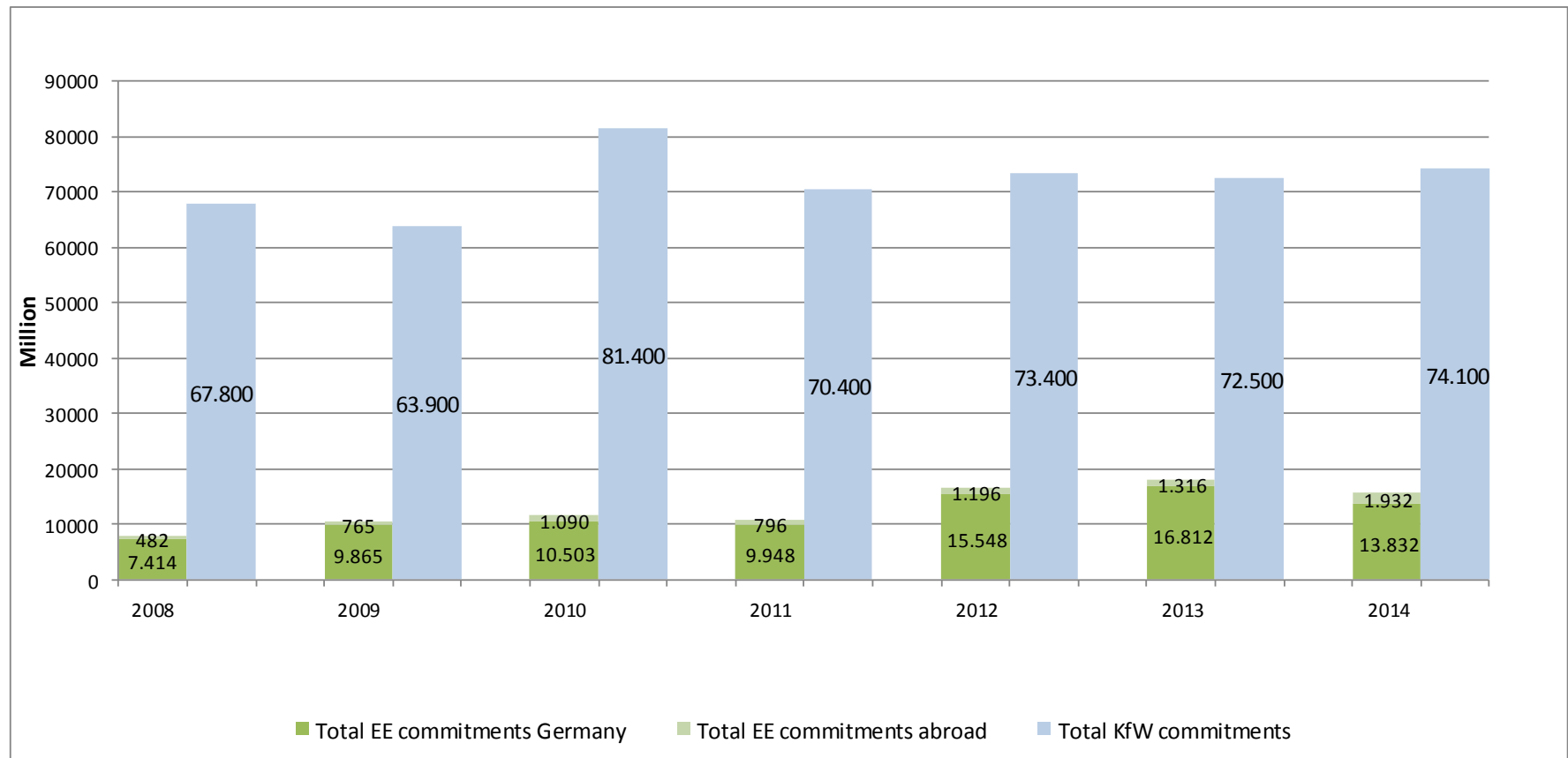
»» La réhabilitation des bâtiments

Catégories des crédits



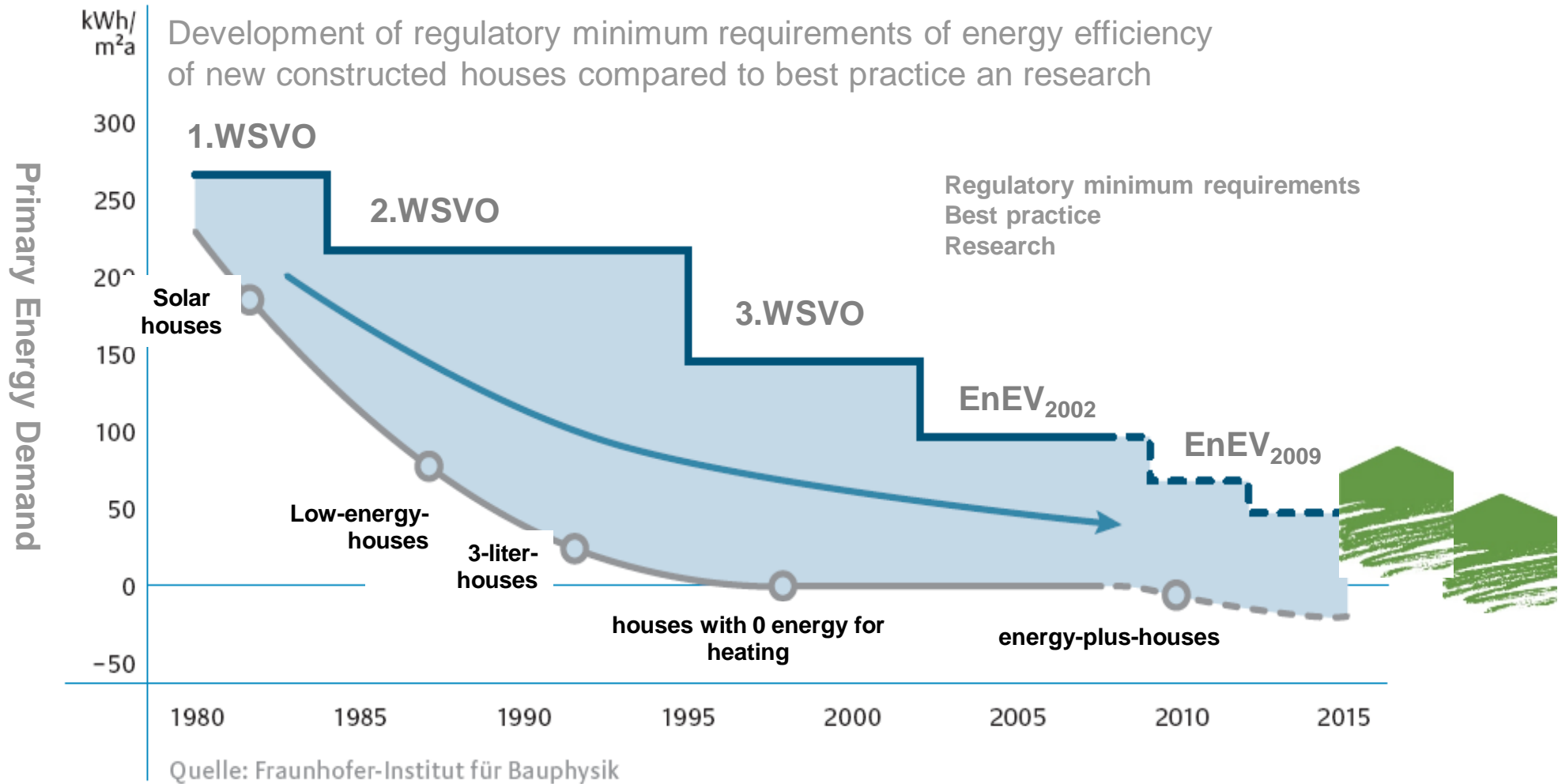
KfW-Efficiency House 100: maximum legal energy use of a **new** building

»» Les investissements de la KfW dans l'efficacité énergétique en croissance en Allemagne et dans les pays partenaires



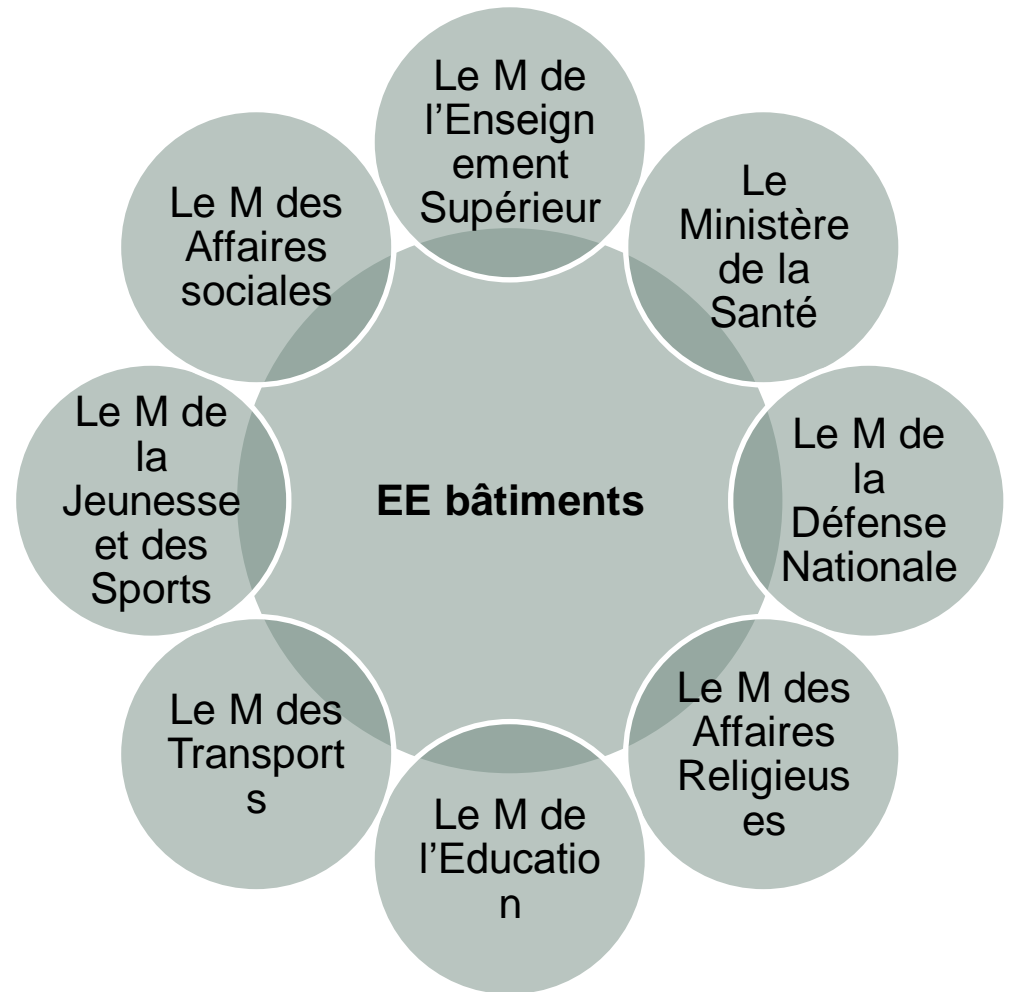
»» Back up slides

»» Development of Energy Efficiency in Buildings (domestic)



»» Efficacité énergétique: des responsabilités dispersées

› Défis: l'architecture de mise en place



»» Energy Efficiency in Public Buildings Programs in SEE

Serbia:

- FC: EUR 16,3m Loan/Grant
- Educational facilities
- Ministry of Education

Kosovo:

- FC: EUR 6m Loan/Grant
- Educational/Administrative facilities
- Ministry of Economical Development

Montenegro:

- FC: EUR 22m +13.4m Loan/Grant
- Educational/Social/Administrative facilities
- Ministry of Economy

Albania:

- FC: EUR 9m + 7m Grant
- Social/Educational facilities
- Ministry of Energy and Industry



»» The results confirm KfW's approach

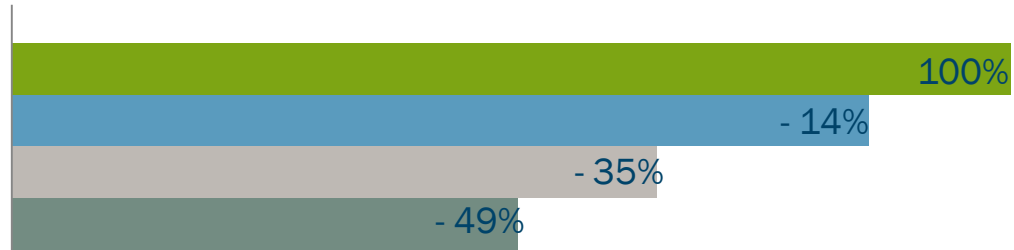


› “Salko Aljković“ Pljevlja, Montenegro

»» KfW opts for the optimal refurbishment solution



- Baseline
- Option 1
- Option 2
- Option 3



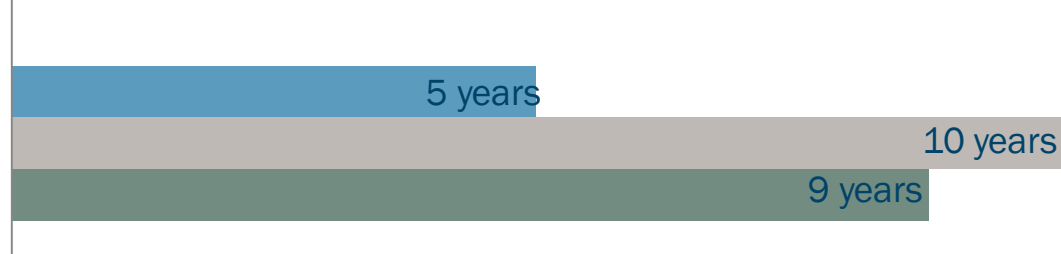
- Baseline
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- Option 3



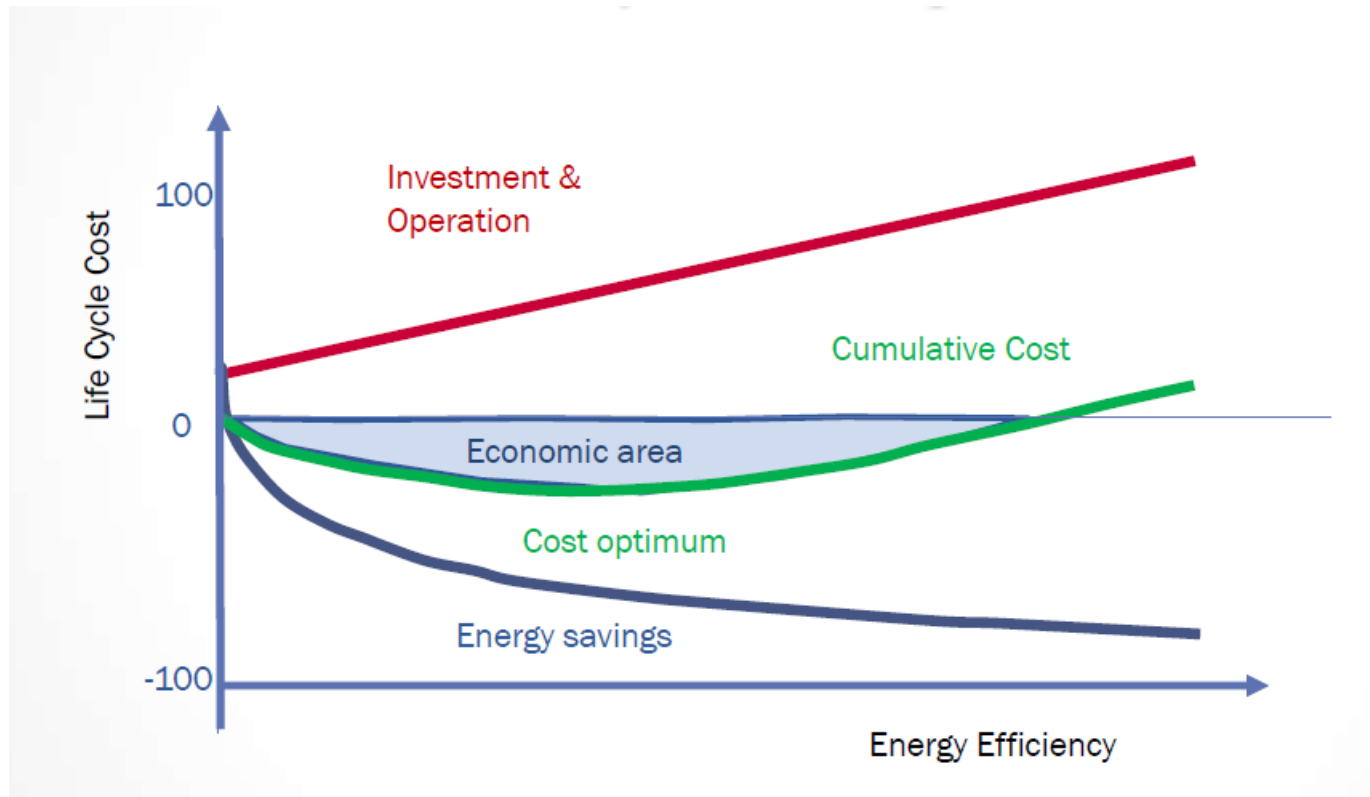
- Baseline
- Option 1
- Option 2
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- Baseline
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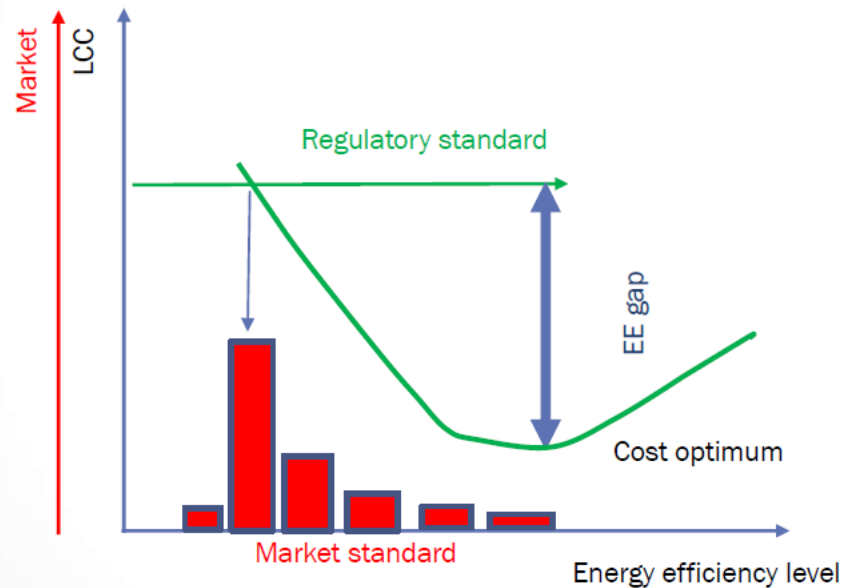


»» Back up slides





Markets are close to the regulatory limit and not to cost optimum!



»» KfW Program Energy Efficiency in Public Buildings – (Some) Lessons learned

There is no „pure“ Energy Efficient Refurbishment Program

- › Refurbishment programs that optimize energy efficiency
- › Separation of EE and non-EE costs is vital
- › EE-costs normally > 50%
- › Economic (conservation of assets) and social benefits (improved learning conditions)

Thinking beyond Investments – Energy Management approach

- › Refurbishment measures are one fundamental component, but energy controlling, trainings, operational optimization and incentive systems are necessary (ISO 50001)

High quality of data and calculations are paramount

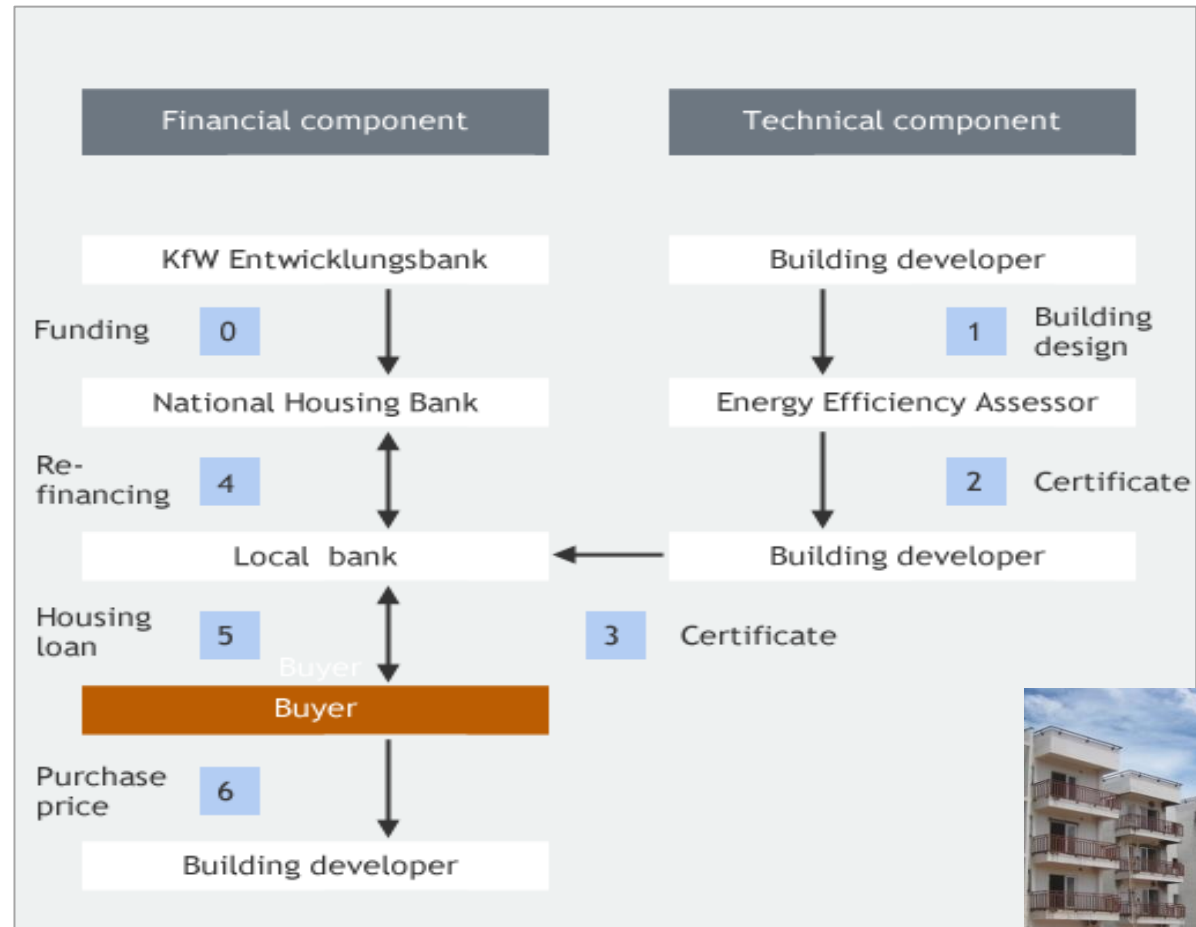
- › Only a reliable baseline enables a credible and functioning program that pays off economically and environmentally
- › (consumption and demand based approaches and base lines)
- › Good preparation includes structured and comprehensive structure and energy audits

Adoption of best practice international standards and software

- › Consumption and Demand Based approach instead of Insulation Value driven
- › EN 13790, DIN 18599, EPBD 2010, EnEV 2009
- › Software E-Pass Helenea Ultra, RETscreen, ENSI


»» Pilot Programme in India: Promoting Energy Efficient Residential Housing


- › Cooperation with National Housing Bank (NHB)
- › Credit line (€ 50 mln.)
- › Technical assistance for capacity building (e.g. developers, finance institutions)




»» Lesson learnt: Scaling up EE finance requires simple but robust tools for energy performance assessment

- › Energy need of refinanced buildings at least 30% lower than benchmark building
- › Adaptation of simple but robust tool for energy performance assessment to Indian conditions (Fraunhofer/TERI)
- › More than 400 buildings certified (> 20,000 apartments)
- › ~ 2000 apartments refinanced by KfW
- › Energy savings of > 40,000 MWh (i.e. annual electricity consumption of 50,000 Indians)
- › Emission reduction > 37,000 t CO₂ p.a.





EnEff:ResBuild India
Toolkit for energy efficient residential buildings in India



Project: Tower 1, Zed Collective, BCIL

Building:

Address of project: Sy.109/4 Avalahalli Village , Next to Towns End Project, Yelhanka Hobli, Bangalore North Taluk, Bangalore

Occupant/Owner:

Table of results - Electrical energy in kWh/m ² yr*			
		This building	Reference building
Internal lighting		4.58	12.97
Common lighting		0.46	1.47
Parking lighting		0.00	0.00
Cooling		28.67	26.09
Heating		0.00	0.00
Hot water		0.00	13.99
Ceiling fans		0.02	0.02
Appliances		28.02	28.02

Building parameters:

Building type: Residential building

Total building area: 1,697.00 m²

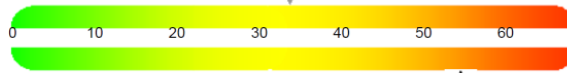
Climatic zone: Bangalore (Temperate)

Created with: EneffResBuild:India Version 0.9.6.0

Consumption of electrical energy in kWh/m²yr*:

*The consumption is related to the building area.

↓ This building:
34 kWh/m²yr



**Savings:
38%**

Reference: ↑
55 kWh/m²yr

Energy shares considered for the loan application

Internal lighting

Common lighting

Parking lighting

Cooling

Heating

Hot water

Ceiling fans


Appliances

Qualitative parameters (0 out of 6 measures are applied in this building):

<input type="checkbox"/> Daylit area in the core area is 20% to 40%	<input type="checkbox"/> Presence detection or photo sensors for outdoor and
<input type="checkbox"/> Solar street lights	<input type="checkbox"/> Efficient water pumps
<input type="checkbox"/> Efficient transformers	<input type="checkbox"/> Tailored user manual

Issuer:
The Energy & Resources Institute (TERI)

Date: 21-02-2012

Signature: 

››› Lessons learnt

- › EE finance is most effective as part of a **promotional system** including **regulation** and **information/consulting** (incl. labeling)
- › Well-designed public EE finance can **catalyze private investment**
- › Any subsidies provided should first focus on supporting **institutional learning** of local financial institutions
- › **Standardization, simple eligibility criteria** and **user-friendly tools** are key to scaling up EE finance
- › **Management commitment** and **staff incentives** are critical factors when working with local financial institution
- › **Quality assurance and control** is key to success, but must **balance costs and benefits**

»» Project Examples

Energy efficient housing program Ecocasa in Mexico - Co-operation with IBD

Challenges

- › Residential sector being responsible for 17% of energy consumption in Mexico with increasing tendency
- › Ambitious climate goals: until 2030 reduction of GHG emissions by 25% (not conditioned) and by 40% (conditioned) in Mexico



Approach

- › Executed under the framework of the first National Appropriate Mitigation Action (NAMA) for Sustainable Housing in Mexico
- › Promoter: development bank for housing „*Sociedad Hipotecaria Federal*“
- › Use of financial incentives and technical assistance to promote low carbon houses
- › Beneficiaries are low and middle income population
- › Eligibility criterion: at least 20% less CO2 emissions compared to standard residences
- › Project developers are free to choose adequate technologies

Impact

- › Up to 32450 energy efficient houses and rental apartments until 2023
- › So far: 32.000 building contracts for energy efficient residences signed, ~ 21,200 already built (ahead of schedule because of high demand)
- › Expected reduction of more than 1 million tons of CO2 (over 40 years)

Volume of financing:

- › Total: 265 mn EUR
- › KfW: 147 mn EUR (through BMZ, LAIF, NAMA Facility)

Financiers / donors:

KfW, IDB, CTF, and EU LAIF