

»» KfW Promotional programs for energy efficiency in buildings

Main elements and success factors

National Roundtable on Financing Energy Efficiency in Latvia

Riga, 26 April 2018

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Bank aus Verantwortung

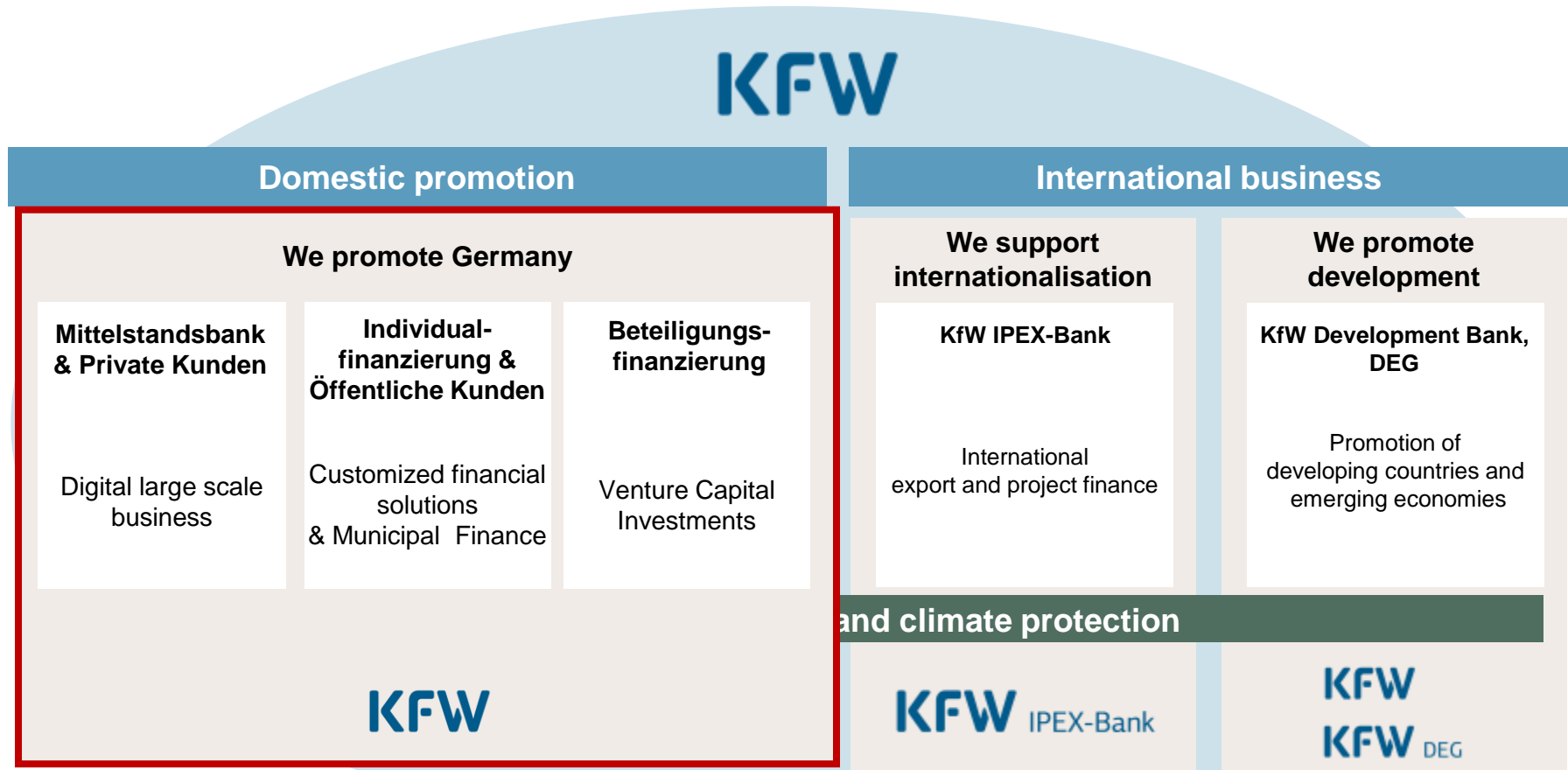
The KfW logo is displayed in a bold, blue, sans-serif font. The letters 'K', 'F', and 'W' are connected, with the 'F' having a unique shape. The logo is positioned in the bottom right corner of the slide.

»» Agenda

- 1** KfW – an introduction
- 2** Domestic promotion for energy efficiency in residential buildings - key principles and promotional levels
- 3** Application and approval process
- 4** Customer orientation and process efficiency
- 5** Quality management & energy efficiency experts
- 6** Facts and figures
- 7** Summary: success factors and lessons learnt

»» KfW - a Bank with a Wide Array of Functions

Broad Promotional Spectrum in Germany and Internationally



»» 18 November 1948

Law Concerning KfW enters into force



»» More than 65 years of KfW

Financing with a public mission

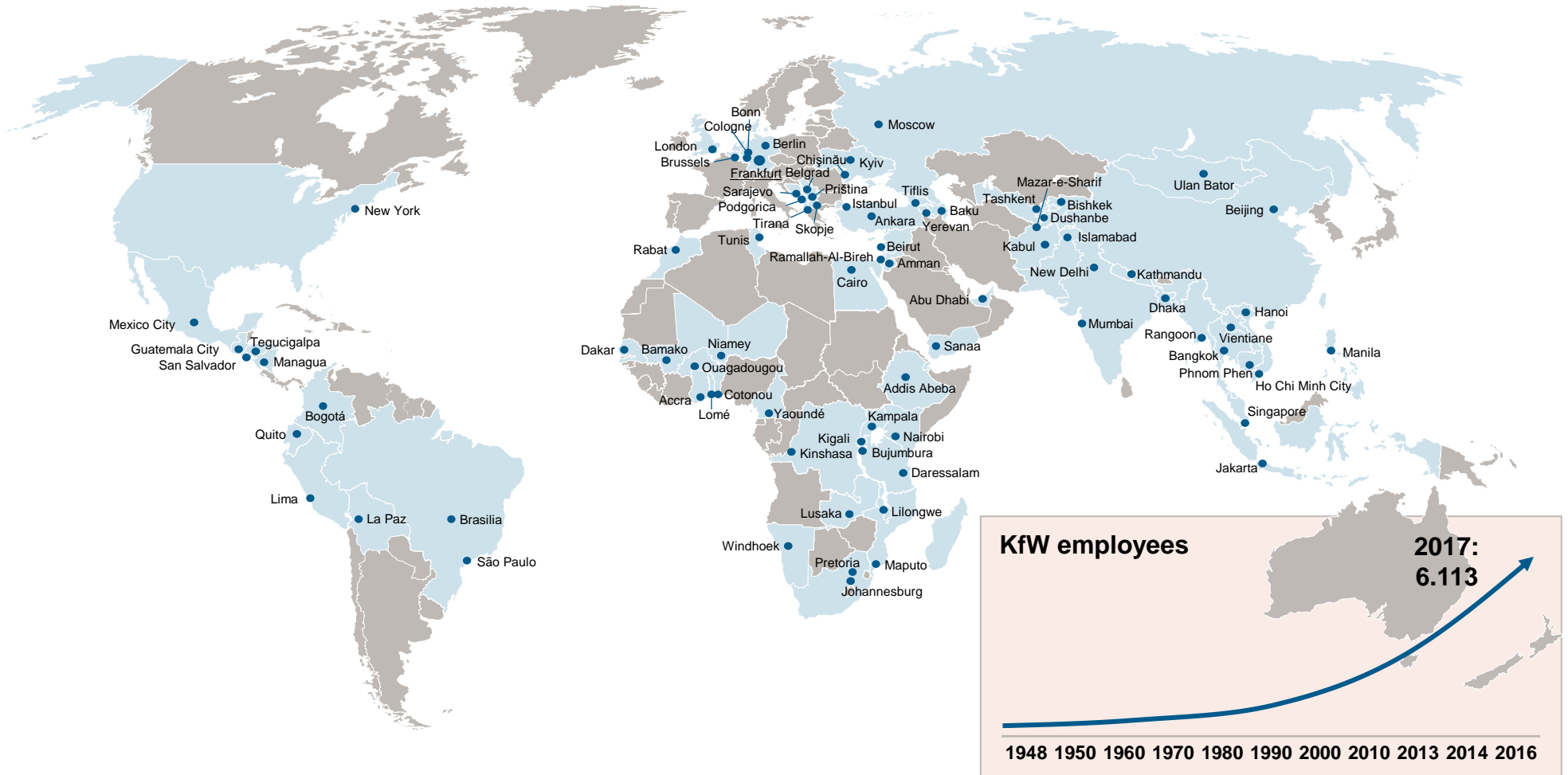


- › Promotional bank of the Federal Republic of Germany
- › Established in 1948 as Kreditanstalt für Wiederaufbau
- › Shareholders: 80% Federal Republic, 20% federal states
- › Headquarters: Frankfurt am Main
Branches: Berlin, Bonn and Cologne
- › Representative offices: about 80 offices and representations worldwide
- › Balance sheet total 2017: EUR 472.3 billion
- › Financing volume 2017: EUR 76.5 billion
- › 6,113 employees (2017) ¹
- › Best long-term rating: Aaa/AAA/AAA

¹ The average number of employees including temporary staff but without members of the Executive Board and trainees

»» Worldwide presence

about 80 representative offices



»» Business Volume

Positive Developments in 2017

Total Commitments (billion EUR) 2017	76.5
KfW Domestic Promotion	51.81
Mittelstandsbank / SME clients	21.9
Public and private clients / financial institutions	29.9
Financial markets	1.5
Export and project finance	13.8
Promotion of developing countries and emerging economies (incl. DEG)	9.7
KfW Group	79.3

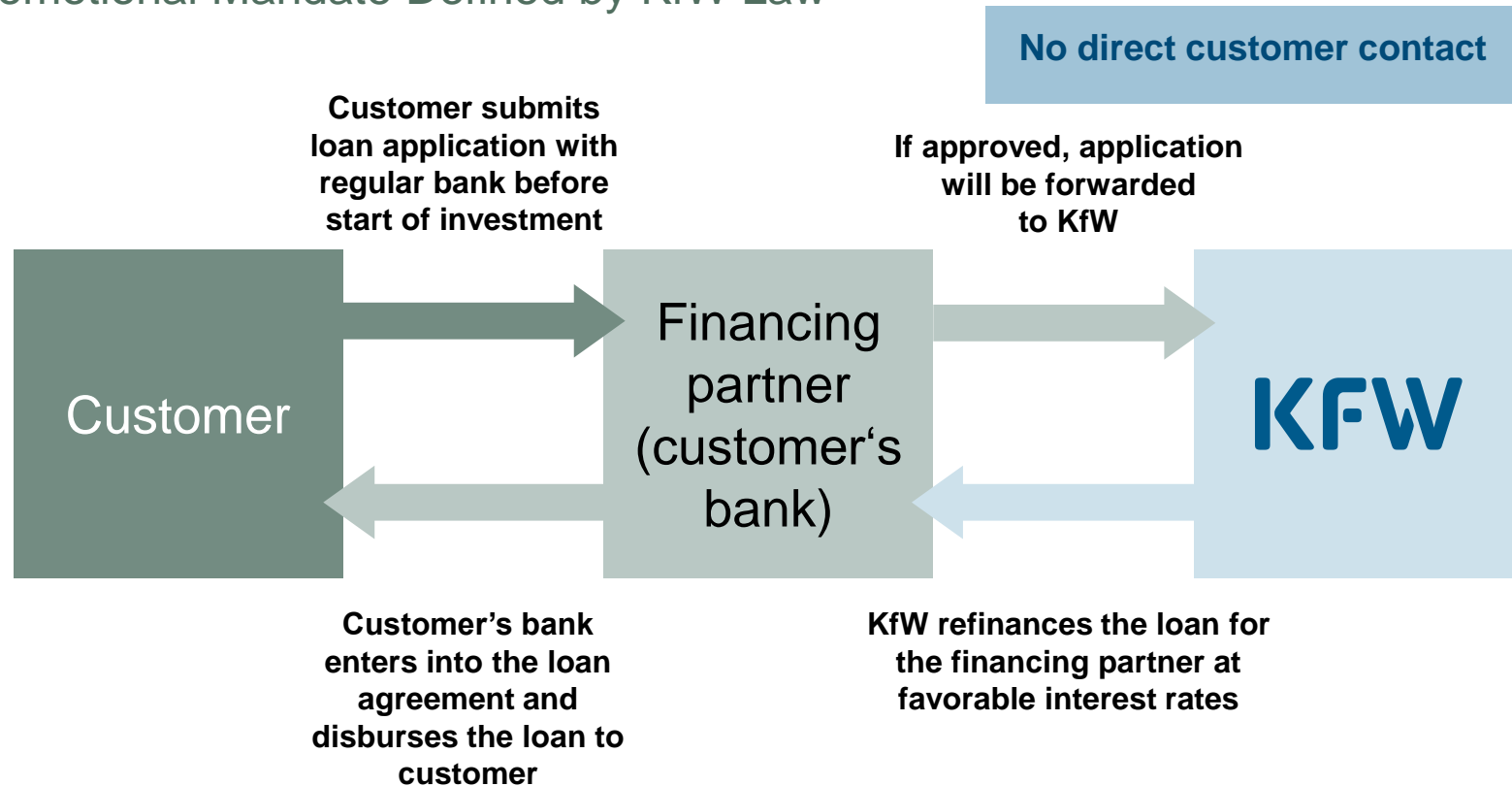
KfW commitments amount to around EUR 70-80 billion p.a. – **43% directed to support environmental and climate protection**

2/3 of volume for domestic promotion

Key areas – promotion of SMEs and building sector

»» On-lending Principle – A Successful Business Model

Promotional Mandate Defined by KfW Law

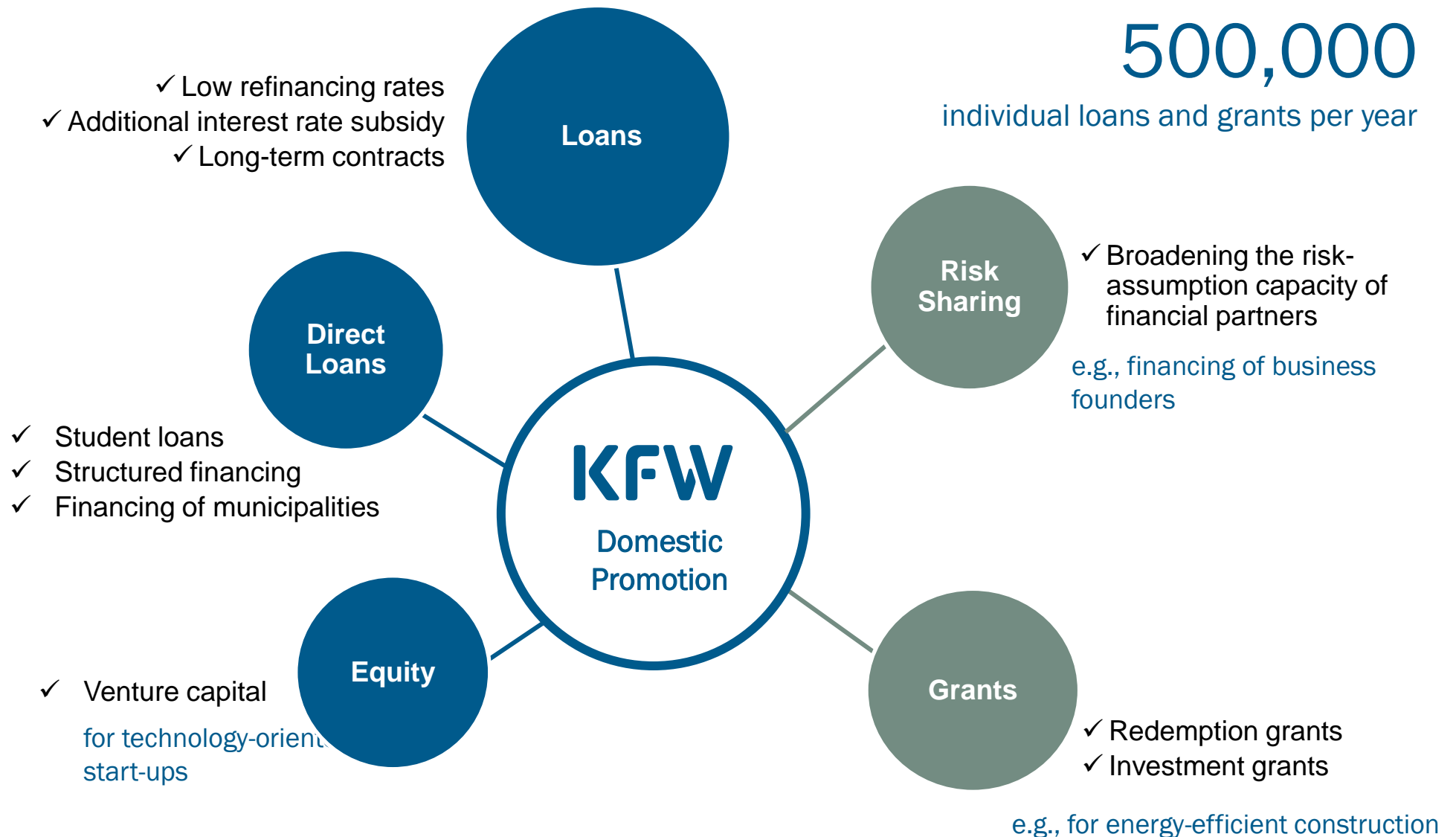


Advantages

- ✓ Promotion available in all regions
- ✓ No KfW branch network necessary
- ✓ Neutral w.r.t financing partners
- ✓ Diversification of risks

»» Overview of Promotional Instruments

Broad Spectrum Tailored to Financing Needs



»» Germany and Europe face challenges from megatrends



Climate change and environment



Digitalisation and innovation



Globalisation



Social change

Climate change and the environment, globalisation, digitalisation and social change – we face great challenges today. KfW is one of the world's leading promotional banks. It applies its decades of experience on behalf of the federal government and the federal states to improve the economic, social and ecological living conditions around the world.

»» National Energy Efficiency Action Plan (NAPE): Making more out of energy

Gefördert durch:



Target: 20 % reduction in primary energy consumption by 2020 compared to 2008 and halve it by 2050.

“Efficiency First” is the guiding principle of the German energy efficiency policy
The **NAPE** sets out the Energy Efficiency Strategy of the Federal Government

Essentially, the NAPE defines cross-sectoral energy efficiency measures for the benefit of all stakeholders. Its three cornerstones are:

1. Stepping up energy efficiency in the building sector

- › Stronger stimulation for energy efficient residential and non-residential buildings

2. Establishing energy efficiency as an investment and business model

- › Improve energy efficiency in production processes

3. Increasing individual responsibility for energy efficiency

»» KfW - one of the largest global financiers addressing environmental protection and climate change



KfW among leading global financiers for climate protection

- › **KfW sustainability guidelines:** one third of new promotional commitments for key areas climate change and environmental protection
- › **2017:** EUR 32.8 bn or 43% of total new loan commitments to address megatrend

„KfW action plan Energiewende“ launched in 2012 (ended in 2016)

- › KfW committed **EUR 103 bn** by end of 2016 (goal: 100 bn over 5 yrs)
- › **2016:** EUR 26.6 bn EUR loan commitments (more than 50% of KfW's domestic promotional volume of 55.1 bn EUR)

Comprehensive offer – KfW addresses the two essential pillars

- › expansion of **renewable energies** (EUR 6.8 bn in 2017) and
- › increase in **energy efficiency** (EUR 21.1 bn in 2017)
- › In addition, technological innovations for climate protection are supported in the context of innovation financing

»» Agenda

1

KfW – an introduction

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Domestic promotion for energy efficiency in residential buildings - key principles and promotional levels

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Application and approval process

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Customer orientation and process efficiency

5

Quality management & energy efficiency experts

6

Facts and figures

7

Summary: success factors and lessons learnt

»» KfW promotion for the building sector - overview

Promotional offer for energy efficient construction and refurbishment



Residential Buildings



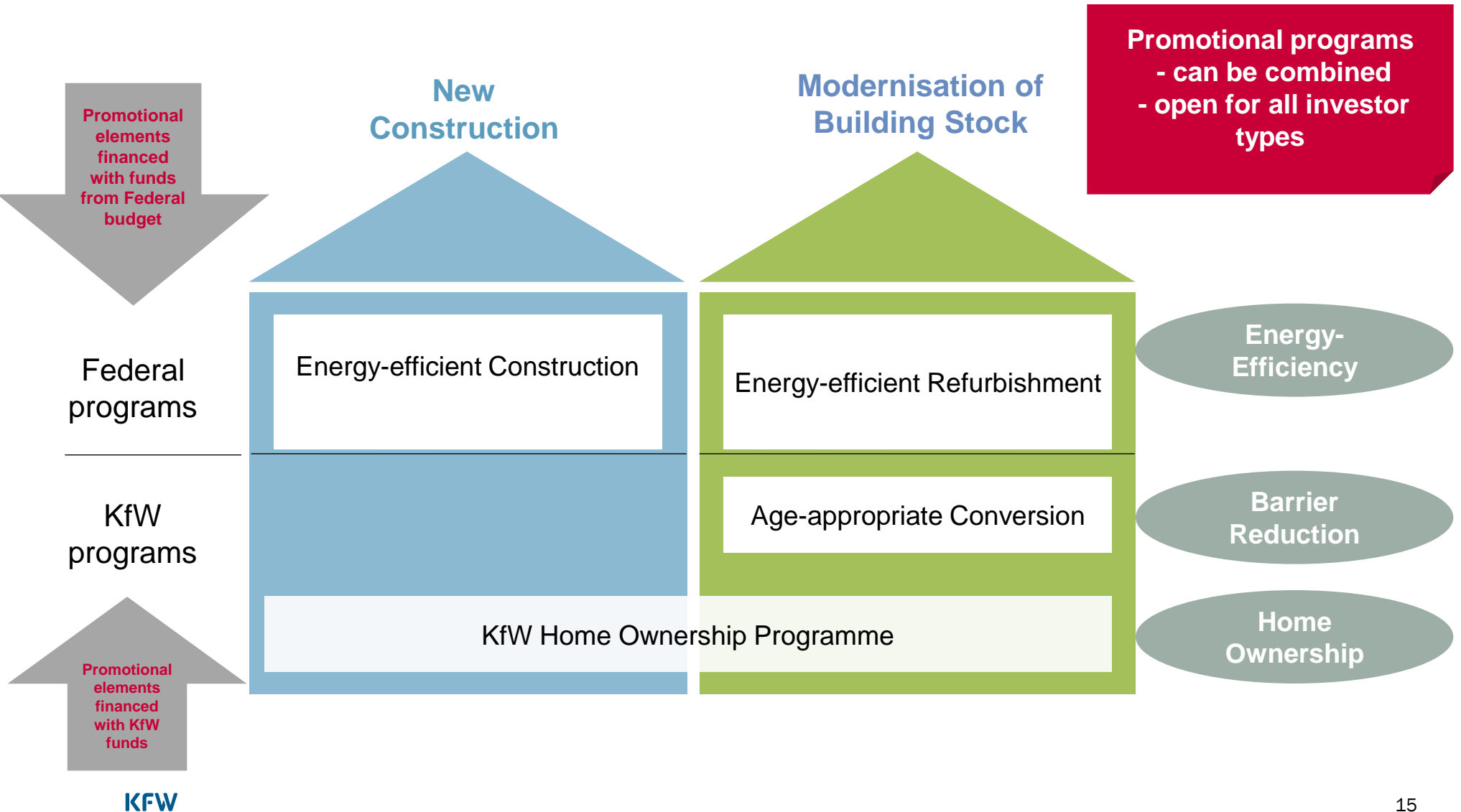
Commercial Buildings



Public Buildings

»» Promotional programs for residential buildings

Overview



»» Promotional programs for residential buildings

Energy- efficient construction and refurbishment

Key principles

- › **German Energy Saving Ordinance (EnEV)** is the baseline
 - › Promotional programs are based on legal framework
 - › Promotional incentives require higher efficiency standard than legal framework
- › Promotional programs are focused on a **holistic approach**
 - › Focusing on **energy efficiency and renewable energies**
 - › **Free choice of technology** (heating system and building envelope)
 - › **Cost efficiency and reduction of energy demand** are crucial
 - › **Open for all types of investors** (including contactors)

› **KfW-Efficiency House: brand for energy efficiency**

- › Market standard for new and existing buildings
- › Easy to understand: the smaller the number the higher the energy efficiency
- › Creates high transparency



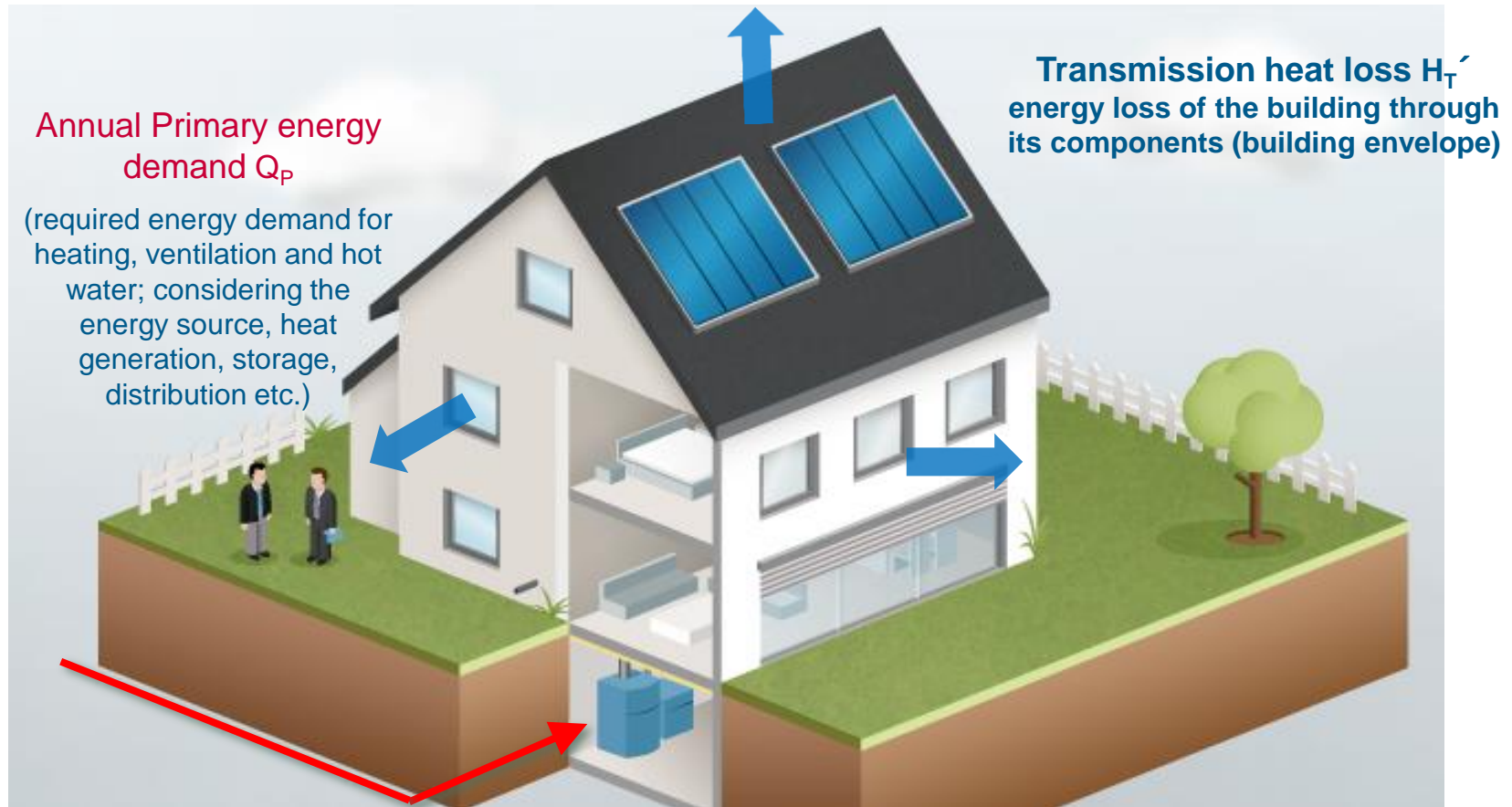
KfW-55

Effizienzhaus

› **The better the energy efficiency level reached, the higher the promotional incentives**

»» KfW-Efficiency House

requirements for energy efficiency



»» Energy-efficient Construction and Refurbishment

Basic principles of energy-efficient buildings

Reduction of heat demand

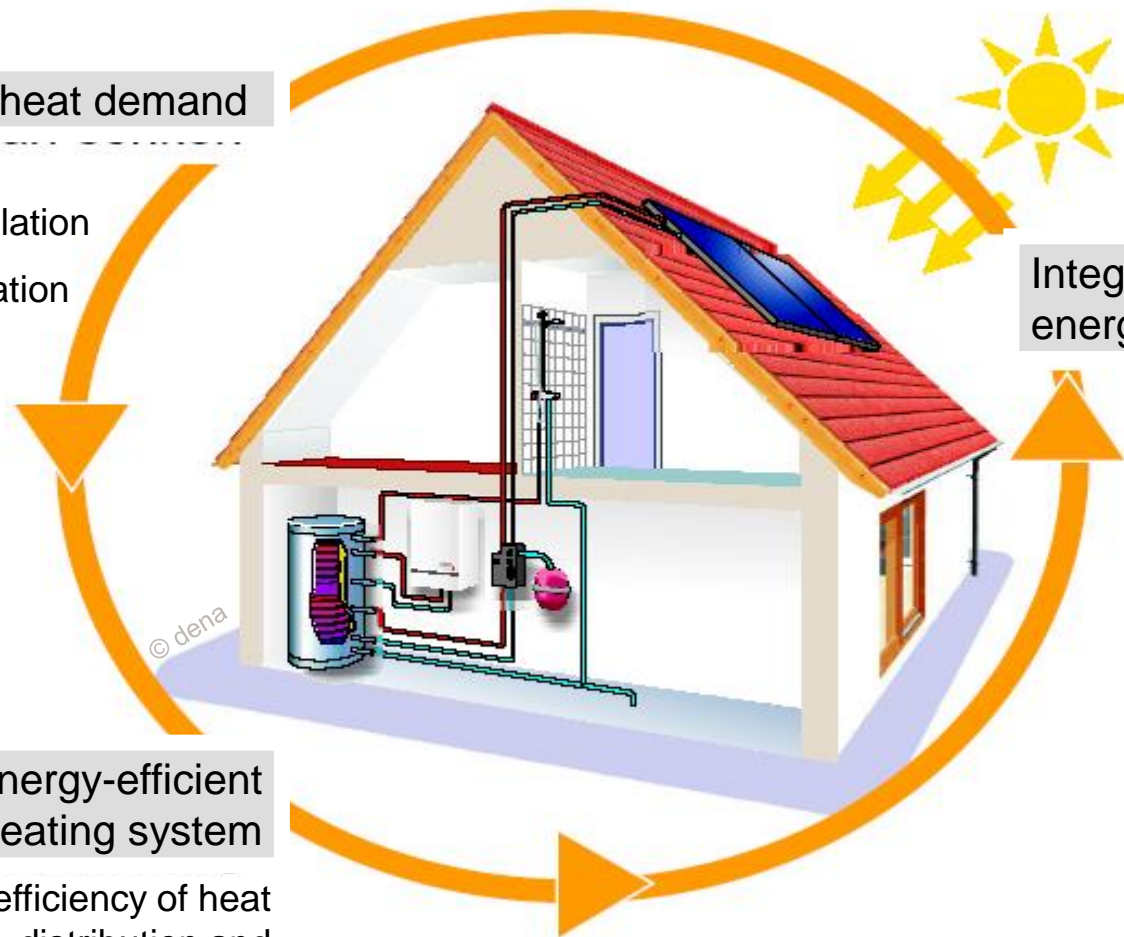
- Thermal insulation
- reduce infiltration heat loss

Integration of renewable energies

- biomass
- solar heat
- heat pump
- heat recovery

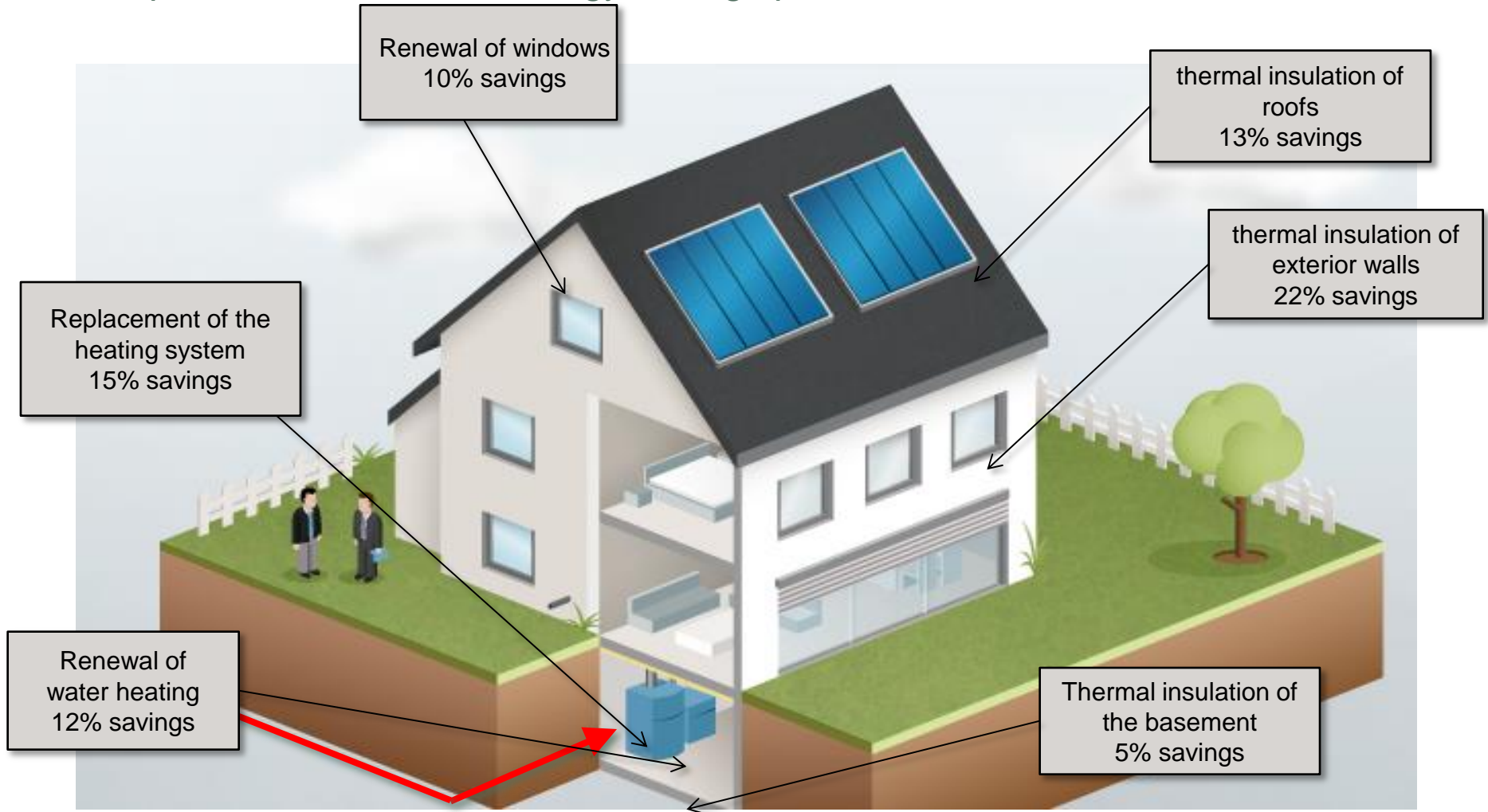
energy-efficient heating system

high efficiency of heat generation, distribution and storage



»» KfW-Efficiency House

Energy efficiency standard for construction and refurbishment
Example of measures and energy savings potential



»» Promotional programs for residential buildings – Set-up Energy-efficient Construction

Promotional Level based on the Energy-efficiency regulation	Annual Primary Energy Demand (Q_P)	Transmission Heat Loss (H_T)	Loan-scheme	
KfW-Efficiency House 40 Plus	40 %	55 %	Interest Rate 1,66 % p.a. effektiv *	Partial debt relief 15 %
KfW-Efficiency House 40	40 %	55 %		10 %
KfW-Efficiency House 55	55 %	70 %		5 %
EnEV 2014 (1.1.2016)	75 %	100 %		
Reference Building EnEV 2014	100 %	100 %		

Technical requirements



(as % of the requirements defined for the Reference Building)

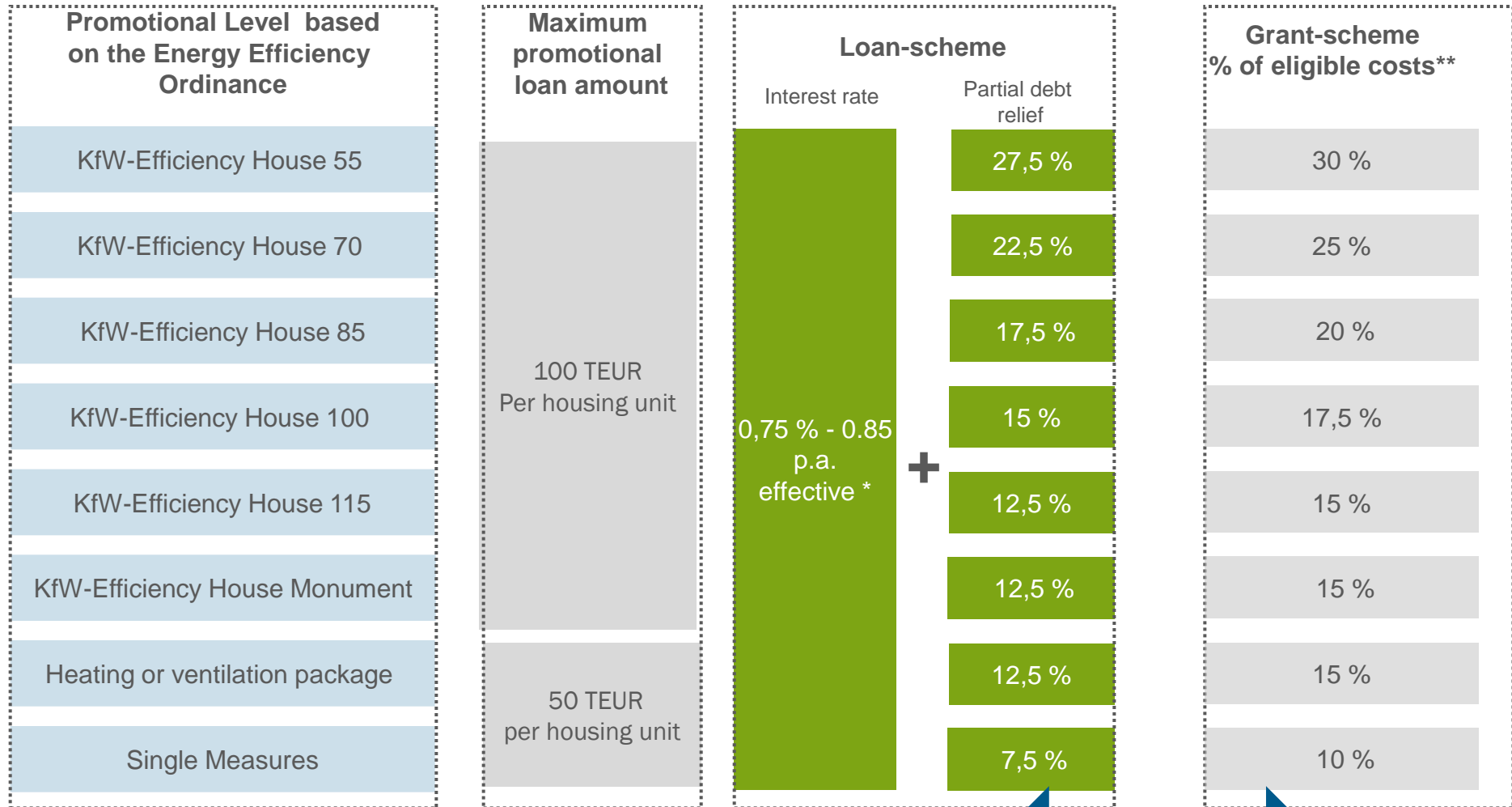
* As per 24.4.2018, 20 year maturity, fixed interest rate for 10 years, 2years amortisation free period

Gefördert durch:

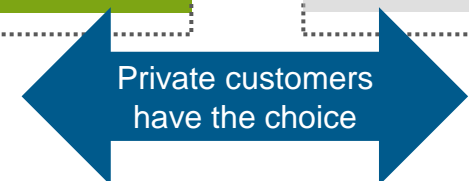


»» Promotional programs for residential buildings – Set-up

Energy Efficient Refurbishment



* As per 24.4.2018; ** based on maximum corresponding loan amount



»» Energy Efficient Refurbishment - Loans

Conditions

0.75 % -0.85 % eff. *

Loan amount:	<ul style="list-style-type: none">› 50.000 EUR per housing unit for single measures› 100.000 EUR per housing unit for an Efficiency House
tenor:	<ul style="list-style-type: none">› Up to 30 years
Fixed interest rate:	<ul style="list-style-type: none">› First 10 years
Interest-free years:	<ul style="list-style-type: none">› 1 to max. 5 years
Collateral:	<ul style="list-style-type: none">› backed by normal banking security
Commitment fee:	<ul style="list-style-type: none">› 6 months free, thereafter 0,25 % per month
Early repayment:	<ul style="list-style-type: none">› Possible; full loan amount, early repayment fee
Combination:	<ul style="list-style-type: none">› Possible with other promotional programmes

* Status: 24.4.2018

»» 12 years Energy Efficient Construction and Refurbishment

Success story: promotional support for 4 million housing units

✓ In 2017 energy efficient refurbishment of **275.000** housing units

✓ In 2017 energy efficient construction of **118.000 new housing units**

✓ **Every 2nd** newly constructed housing unit

✓ **Tripling of promotional** volume since start of program in 2006

✓ **Largest product family** of domestic promotion

✓ **KfW-Efficiency House - setting market standards** for efficient construction and refurbishment

✓ **EUR 300 bn investments** triggered over 12 years

✓ **Digital** application and approval processes

✓ Products **contribute 17% to** accomplishment of **national efficiency goals** (energy savings and CO2 reduction in building).

✓ Sometimes **negative effective interest** rate due to combination of low interest rate plus partial debt relief



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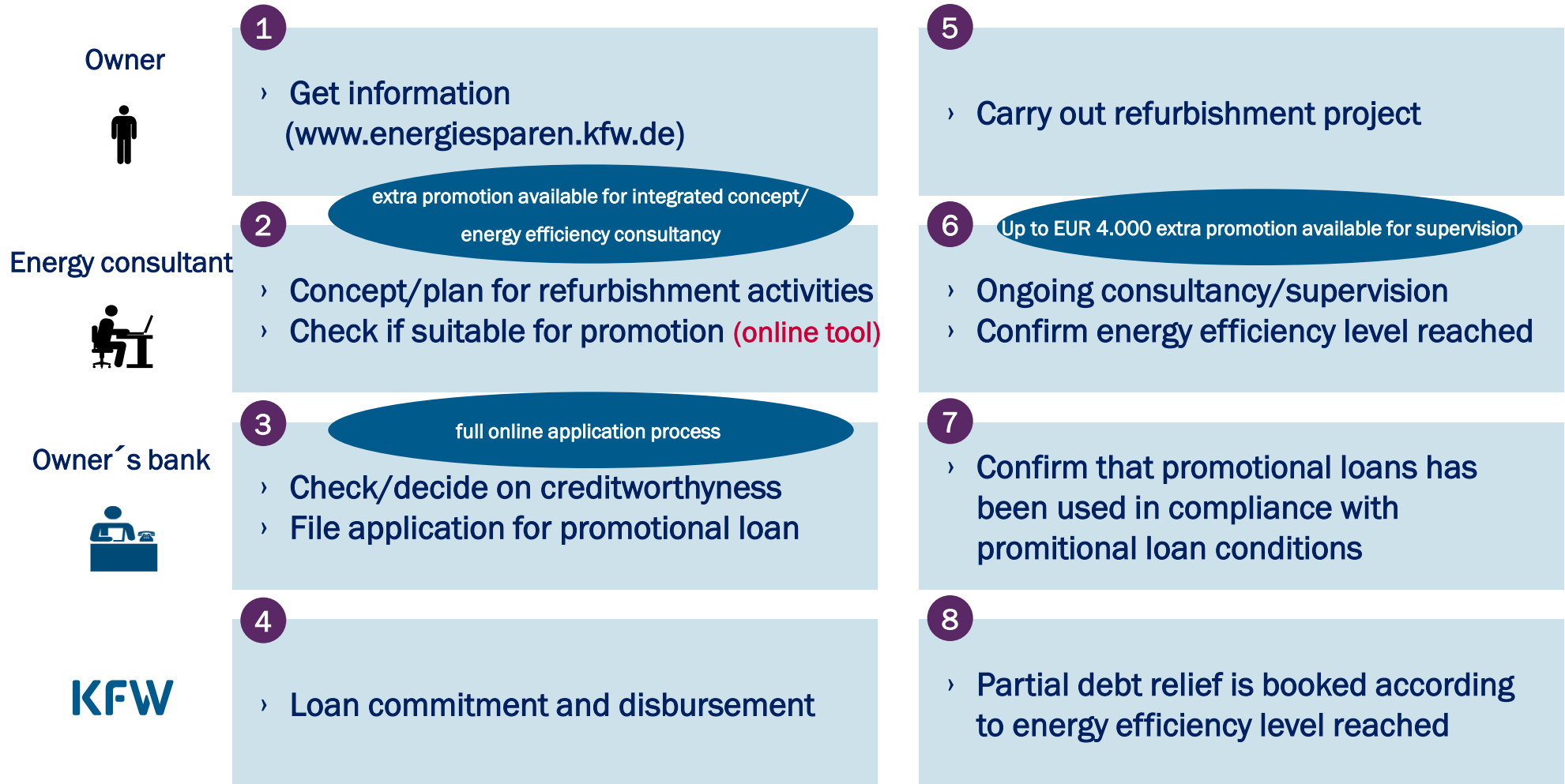
Facts and figures

7

Summary: success factors and lessons learnt

»» How does the promotional scheme work in detail

Energy efficient refurbishment - credit



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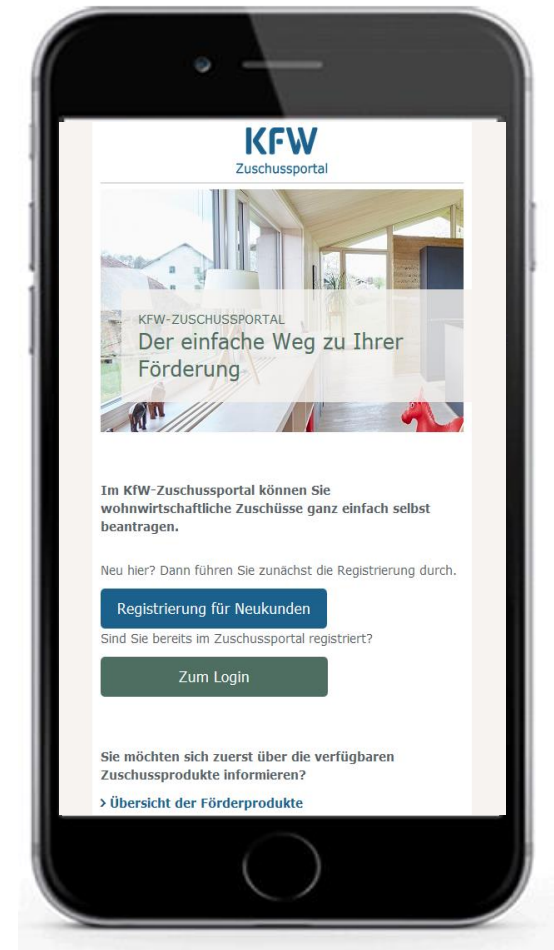
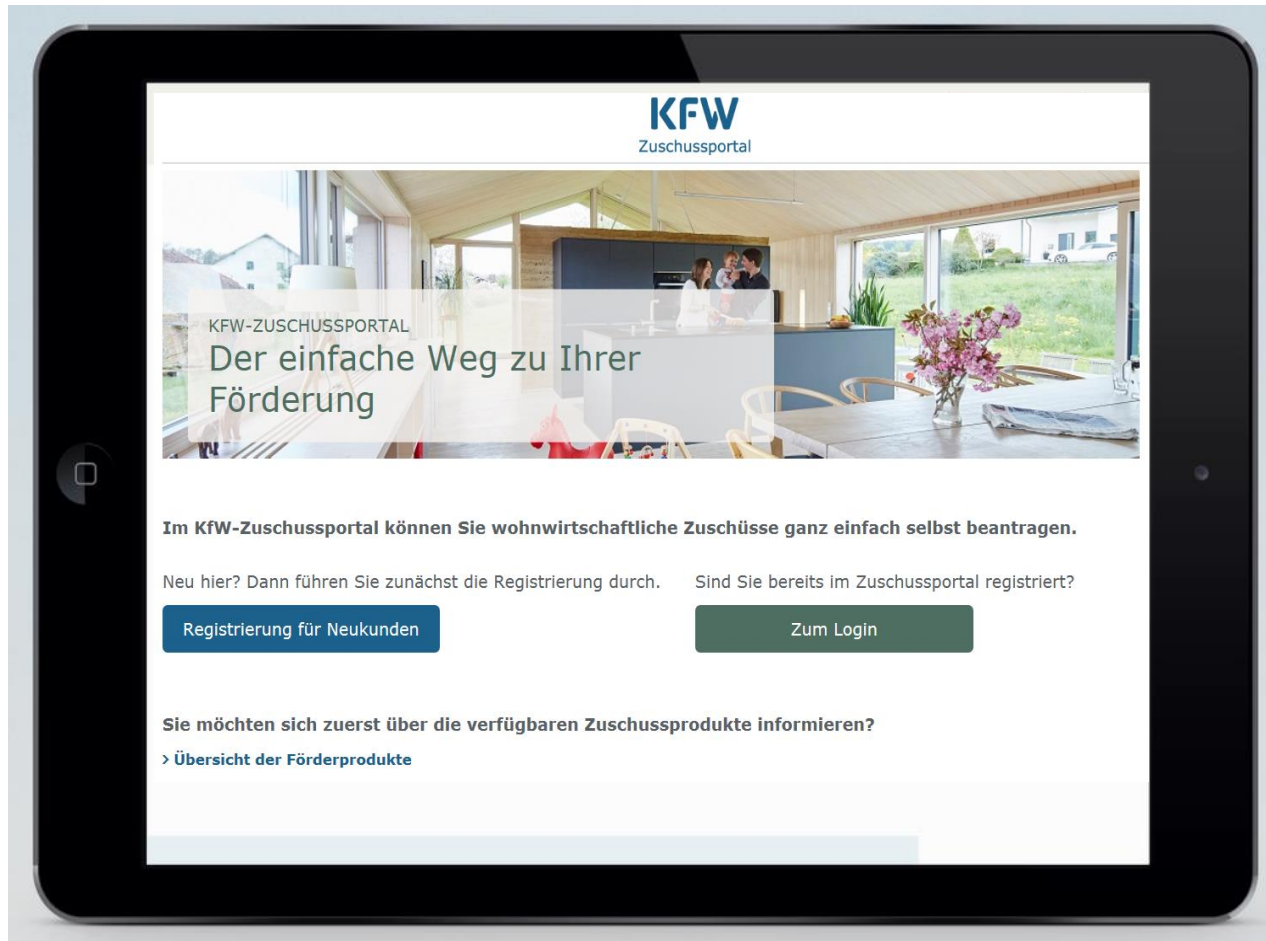
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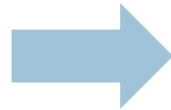
»» Online access to promotional product information

.....online application for promotional loans and grants...

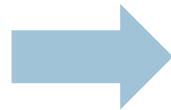


»» Digitizing Domestic Promotion

'On-Lending Online 2.0': Advanced Customer Orientation – Efficient, Automated Processes



Changed customer behaviour transforms business models



Very high market dynamics in banking – opportunities of digitization are allocated now

Implication for the promotion-related business

Through the use of new technologies, KfW associates with digitization the opportunity...

- › to sustainably secure its promotional activities especially with regard to customers and partners and
- › to identify and raise new efficiency potentials

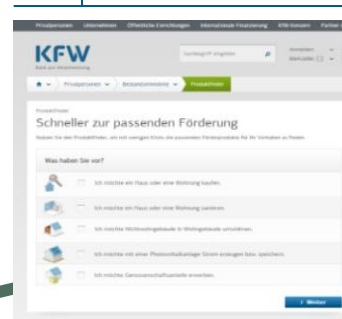


On-Lending Online 2.0

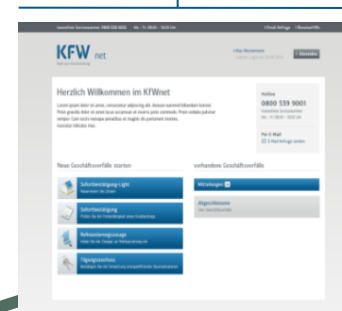
»» Digital application process



KfW-Website



toolbased



„Cappuccino-Effect“
for the client

»» Customer orientation KfW-Online-portal for grants

› How does it work



Einfach



Digital



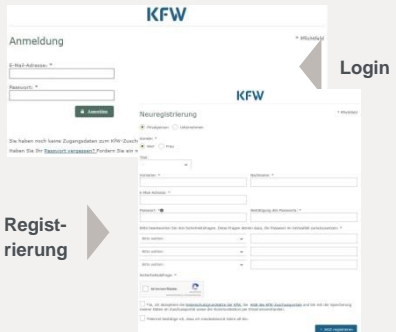
Überall

Registration

Application


Identification

Payment

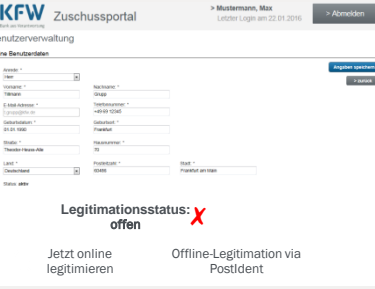


Registrierung

- › Establishment of account in online grant portal
- › Easy: only few data required
- › Security questions in case of lost password and Double-Opt-In-Procedure



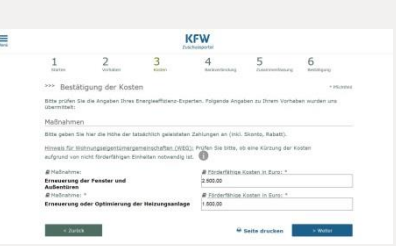
- › Complement personal data and information on targeted investment
- › Direct Feedback on the screen and after sending the application
- › Instant access to approval



Legitimationsstatus: X offen

Jetzt online legitimieren Offline-Legitimation via PostIdent

- › Direct integration of solutions for personal identification
 - › Post-Ident
 - › Online-Identification (chat)



- › Confirmation of accomplishment of investment (upload invoice)
- › Bank account details for payment of grant
- › direct feedback available on screen
- › Instant information regarding disbursement date

»» Promotional products well prepared for the future are



› Easy to understand, easy to access and easy to apply for



› Available via digital channels



› Everywhere where the customer seeks for information

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»» Energy Efficient Construction and Refurbishment

Grants for energy efficiency planning and assistance through experts

- › **Grants of 50 %** of eligible costs of **energy consultant**, max. 4.000 Euro per applicant and project

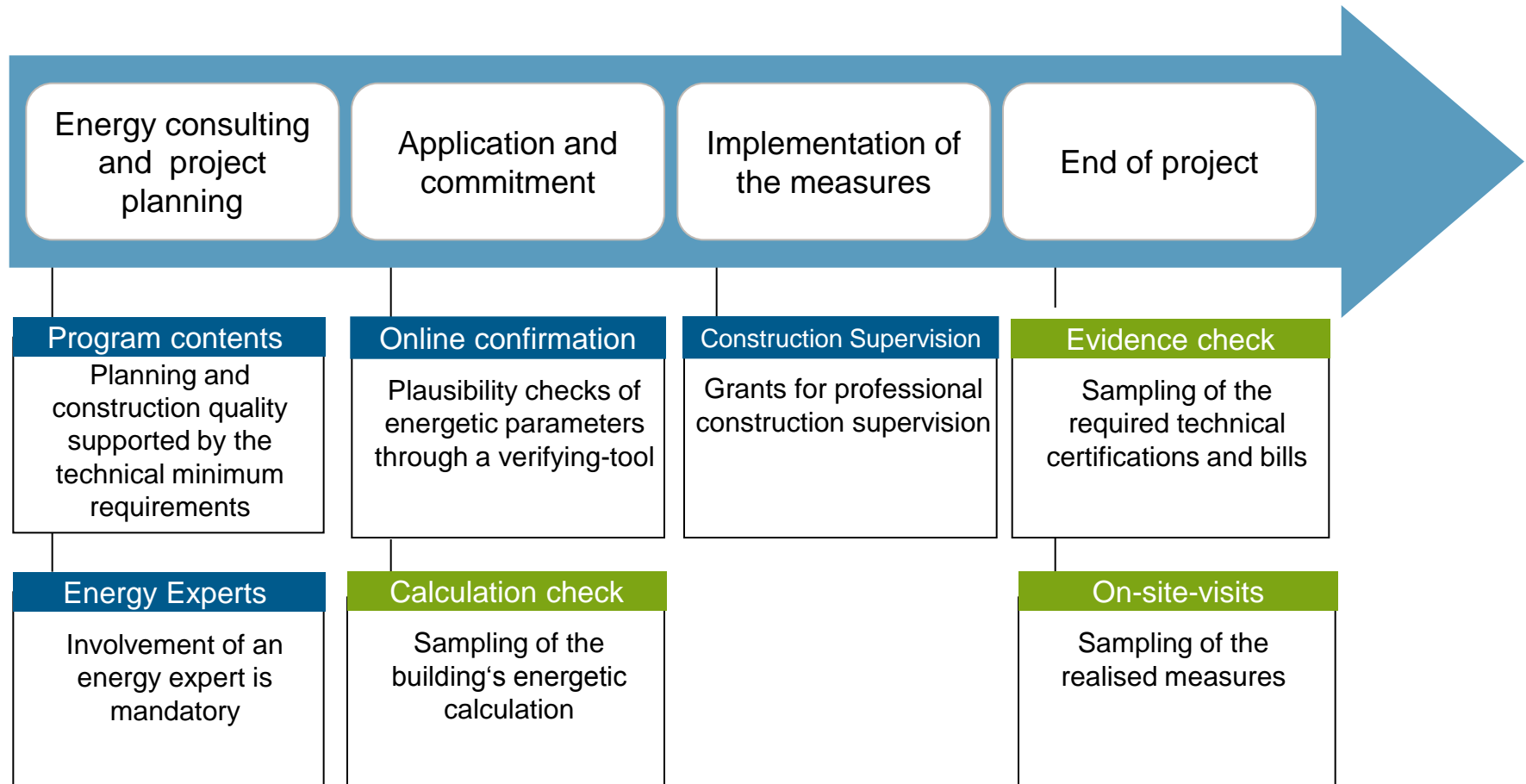
- › **For planning of energy efficiency measures and assistance until implementation of the measures**

Available in combination with KfW programme **Energy Efficient Construction as well as Energy Efficient Refurbishment**

- › **All energy efficiency experts involved in promotional process** must be listed in a targeted register, set up in 2012 to support the promotional programs (approx. 14.000 experts as of today). www.energieeffizienz-experten.de
- › Listing requires proof of professional experience and quality;
- › re-listing every 3 years;
- › Ongoing training required to keep up with technical, legal, market development
- › “AAA-list” reputation among energy efficiency experts due to high professional expectations

»» Energy Efficient Construction and Refurbishment

KfW quality management system



Quality checks

»» Agenda

1

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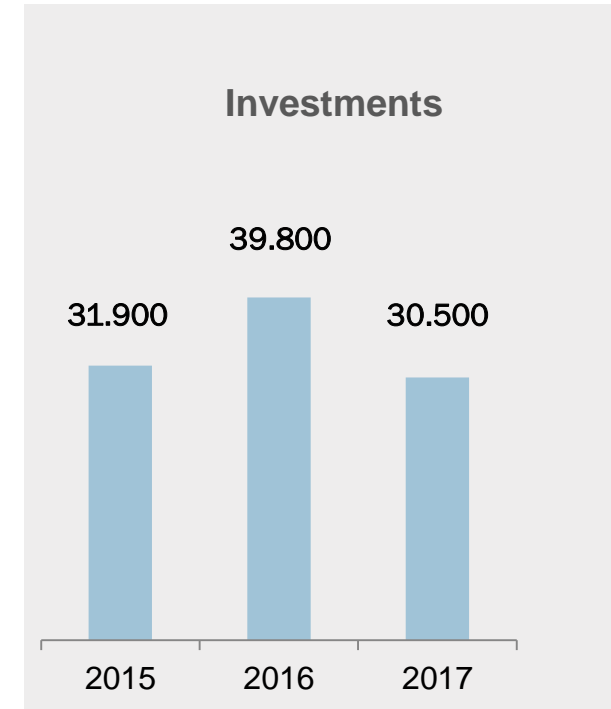
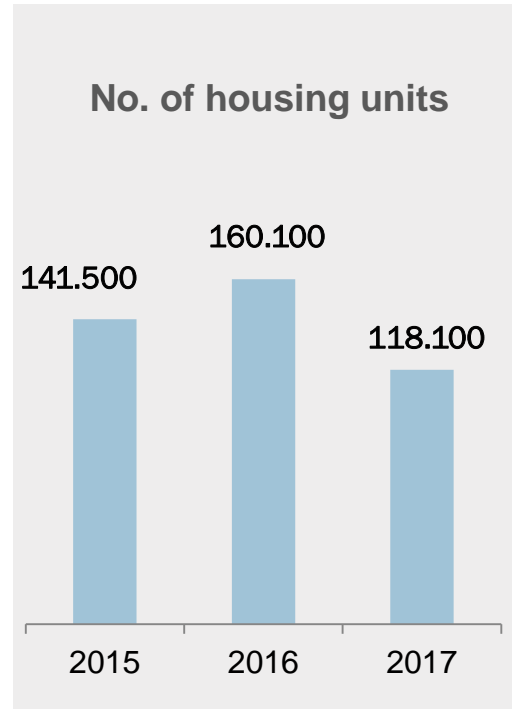
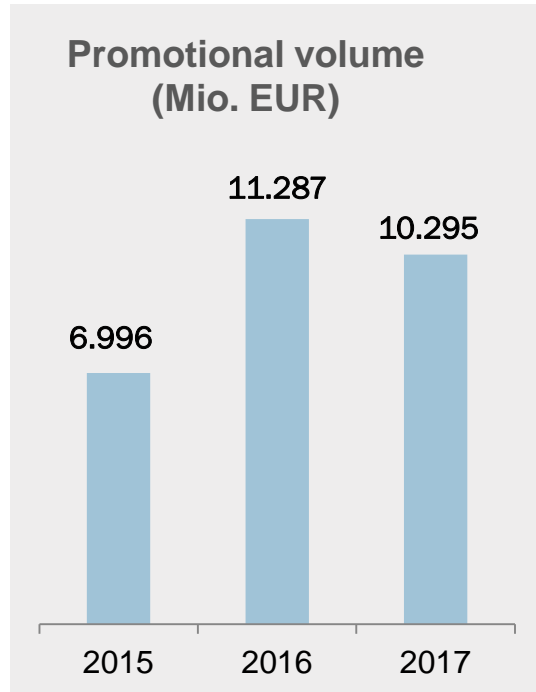
Facts and figures

7

Summary: success factors and lessons learnt

»» Energy-efficient refurbishment

About 3,6 million promoted housing units since 2006 (~ 9% of the existing housing stock in Germany)



- Loan-scheme (lower interest rates and repayment bonus between 7,5 and 27,5 %)
- Grant-scheme (between 10 and 30 %)

Reduction of CO₂-Emissions since 2006 = **7.66 million tons per year**

»» Energy-efficient construction

About 50% of all new residential buildings in Germany are KfW energy-efficient houses



■ Loan-scheme (lower interest rates and repayment bonus between 5 and 15 %)

Reduction of CO₂-Emissions since 2006 = 1.02 million tons per year

»» Energy Efficient Construction and Refurbishment

Promotional effects

- › **Annual evaluation of promotional effects** by IWU/Fraunhofer
- › **Positive impact for building owners and tenants**
 - › Reduced energy bill
 - › Increase in comfort
 - › Positive impact on property value
- › **Reduction of CO₂-Emissions since 2006 = 9.4 million tons per year (as of 31 December 2017)**
- › **Economic stimulus package for SME: 470.000 new jobs created or saved for one year (2017)**
- › Positive budgetary effect due to tax income as well as reduced unemployment .



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»» The basis for success

1	Government/public mandate <ul style="list-style-type: none">➤ important role in implementing the energy transition
2	KfW's top capital market refinancing conditions <ul style="list-style-type: none">➤ benefit for on-lending banks (cheap refinancing)
3	On-lending model and distribution/marketing <ul style="list-style-type: none">➤ broad network with business/ financing partners ongoing training / information on product development for financial institutions and other multipliers
4	Awareness raising: maintaining a tailor-made, ongoing stakeholder information & dialogue across the entire spectrum of stakeholders <ul style="list-style-type: none">➤ owner associations, housing associations➤ all kinds of representatives of the building sector➤ representatives of the energy-efficiency industry➤ chambers of architects & engineers, chambers of commerce, chambers of craft➤ energy efficiency experts➤ political spectrum (ministries, members of parliament, political parties)

»» The basis for success

5	Availability of public budget <ul style="list-style-type: none">➤ Long term availability of public funds to support promotional programmes creates the basis for the development of promotional products➤ Careful management of the limited public budget required to support the promotional products in accordance with market conditions and product strategy
6	Stability and attractiveness of promotional product offer – established brand (KfW Efficiency House) <ul style="list-style-type: none">➤ basis for customer investment planning
7	High degree of standardisation <ul style="list-style-type: none">➤ through KfW-Efficiency House Standard and component requirements
8	Focus on customer orientation through ongoing improvement of product access <ul style="list-style-type: none">➤ Use of modern digital communication channels and ways of interaction

»» Creating a win-win situation for all parties involved

- | | |
|---|---|
| 1 | <p>For promotional customers</p> <ul style="list-style-type: none">➤ Attractive promotional conditions (flexibility – choice between loans and grants; financially attractive conditions: very low interest rate; partial debt relief;)➤ Easy access to promotional product spectrum (web-based; customer bank)➤ Professional client support through mandatory involvement of an energy expert➤ Fast online approval process for promotional loan and grant products (“cappuchino”) |
| 2 | <p>For on-lending institutions (commercial banks/savings banks and insurance companies)</p> <ul style="list-style-type: none">➤ Enhanced product spectrum for their clients, improvement of cross-selling potential➤ Access to liquidity without capital market refinancing costs➤ Attractive handling fee to compensate for on-lending activities➤ Free of charge ongoing training and information for bank employees |
| 3 | <p>For the public budget</p> <ul style="list-style-type: none">➤ Additional income from tax and social security contributions |

»» Internationally accepted promotion system

Energy-efficient construction and refurbishment



- › Promotion of consulting and investments are coordinated with the **Energy Saving Ordinance**
- › Efficiency requirements are **more challenging** than the Energy Saving Ordinance
- › Promotion is **technological neutral** - Heating technology and building envelope
- › Every investor can make a request (“Principle of everyman”) - **width of refurbishment**
- › The higher energy efficiency, the more attractive the promotion – **depth of refurbishment**
- › Main role of the **quality control** (for example support by qualified experts)



KfW-55

Effizienzhaus

»» Lessons learnt

Energy-efficient construction and refurbishment

- › The more **transparent and simple** the promotional scheme ...
 - › the better it is to understand and
 - › the **easier it is to distribute**
- › The **mandatory involvement of an energy expert** is very important to
 - › provide comfort to the investor regarding his energy efficiency project
 - › assures a high degree of quality and reliability regarding energy efficiency level achieved
 - › assures target-oriented use of public funds
- › **Monitoring of promotional effects** is important to show
 - › economic and climatic impact
 - › contribution to fulfill the goals of the Federal government

»» Thank you for your attention!

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Bank aus Verantwortung

KFW



Back-up

»» Non-residential buildings – public sector clients

Energy-efficient **Construction and refurbishment for non-residential buildings**
(introduced in 10/2015)

	Promotional Level based on the Energy Efficiency Ordinance	Up to EUR 25m per investment	Promotional Loan		Promotion available for:
			Interest Rate	Partial Debt Relief	
Construction	KfW-Efficiency House 55	Up to EUR 25m per investment	adjusted interest rate from 1% p.a.	5%	<ul style="list-style-type: none"> – Comprehensive refurbishment – Single measures – Subsidized interest rate – Partial debt relief – Grant for project development assistance
	KfW-Efficiency House 70			--	
Refurbishment	KfW-Efficiency House 70	Up to EUR 25m per investment	Risk-adjusted interest rate from 1% p.a. effective	17,5 %	
	KfW-Efficiency House 100			10 %	
	KfW-Efficiency House Monument			7,5%	
	Single Measures			5%	

»» Energy-efficient Construction and Refurbishment

Basic principles of energy-efficient buildings

Reduction of heat demand

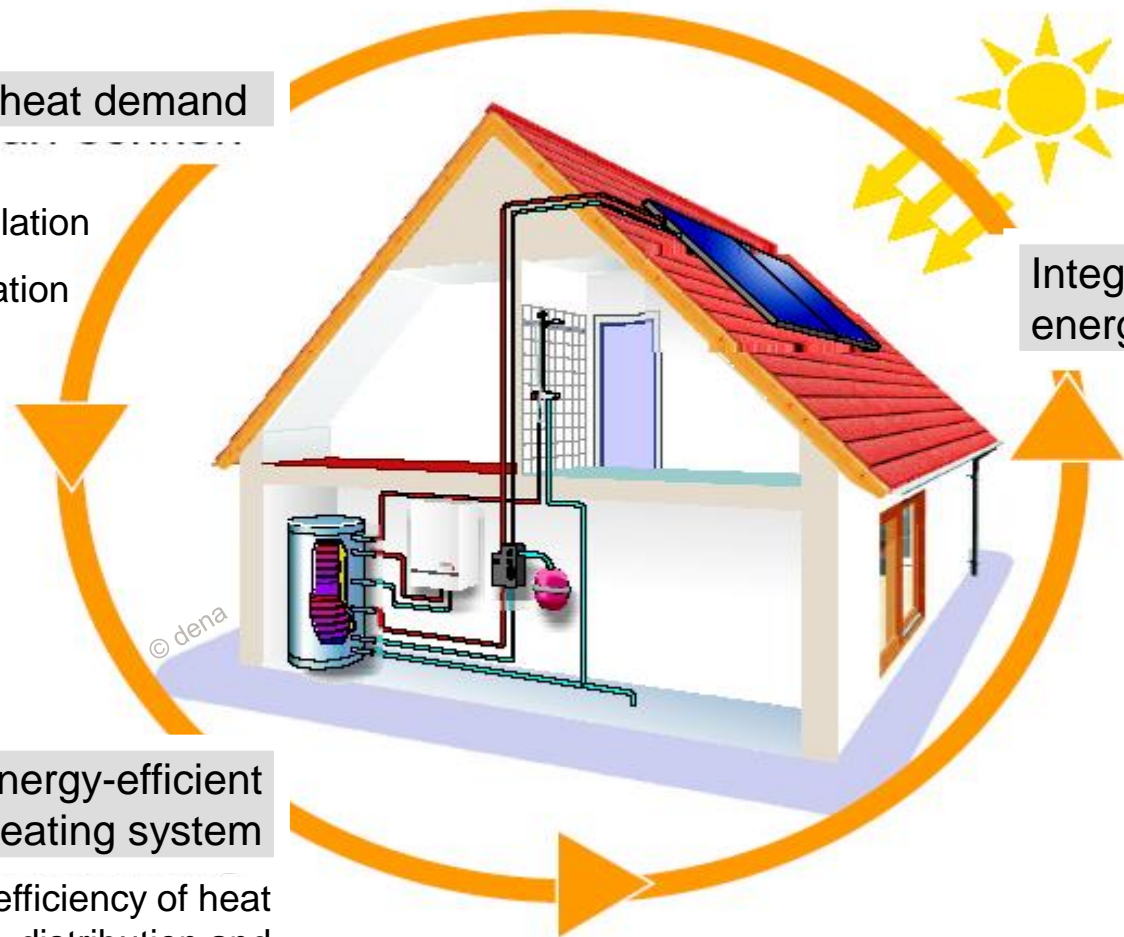
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Integration of renewable energies

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energy-efficient heating system

high efficiency of heat generation, distribution and storage



»» KfW-Efficiency House

Energy efficiency standard for construction and refurbishment

