

Wettbewerbsfaktor Energie

Neue Chancen für die deutsche Wirtschaft



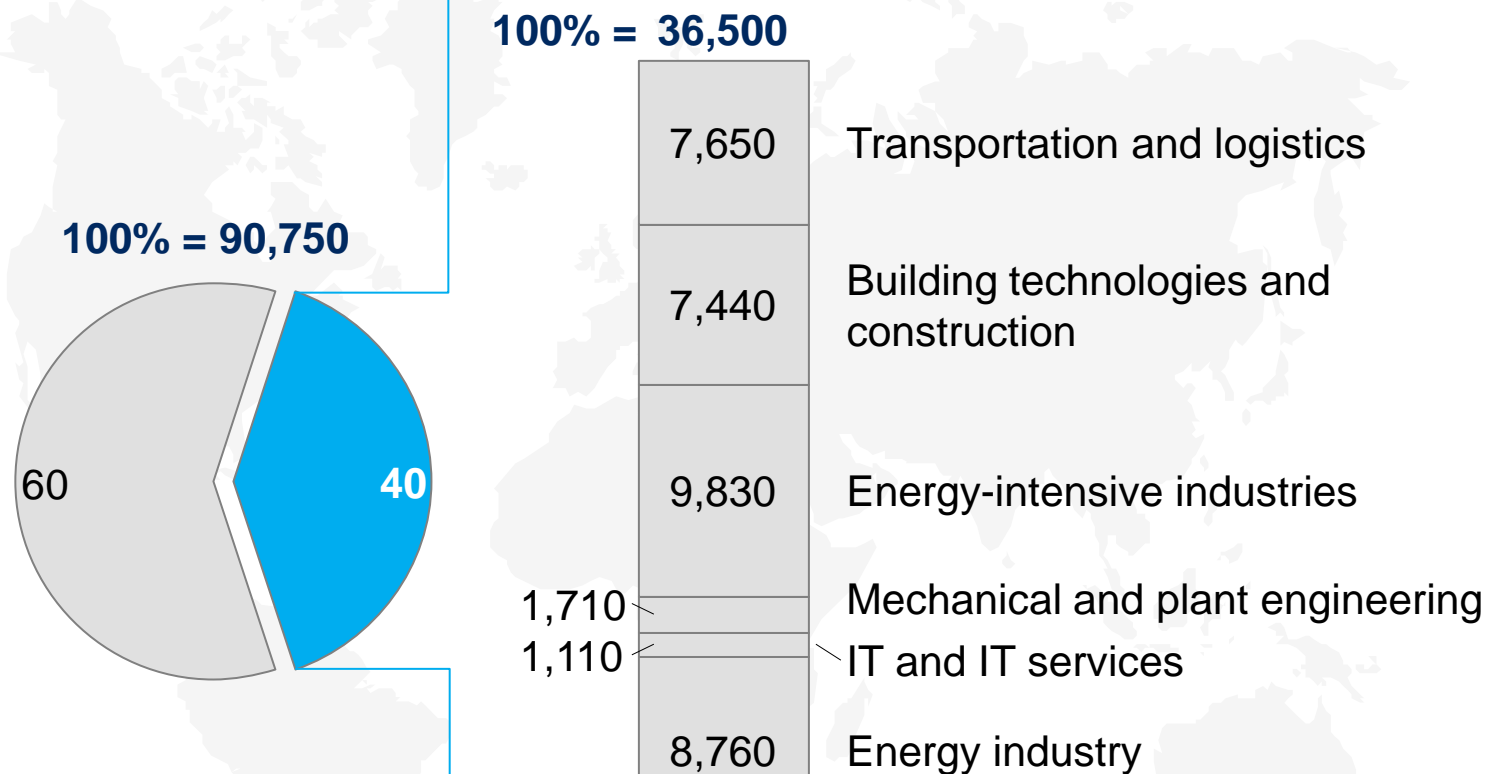
Vorstellung der Kernergebnisse aus der Studie Wettbewerbsfaktor Energie

Präsentation beim „zukunft haus“-Kongress 2009 der dena
Berlin, 24. November 2009

STRENG VERTRAULICH UND RECHTLICH GESCHÜTZT
Jedwede Verwendung dieser Unterlagen ohne ausdrückliche Genehmigung durch McKinsey & Company ist streng untersagt

Energy plays a vital role for 40% of global revenues

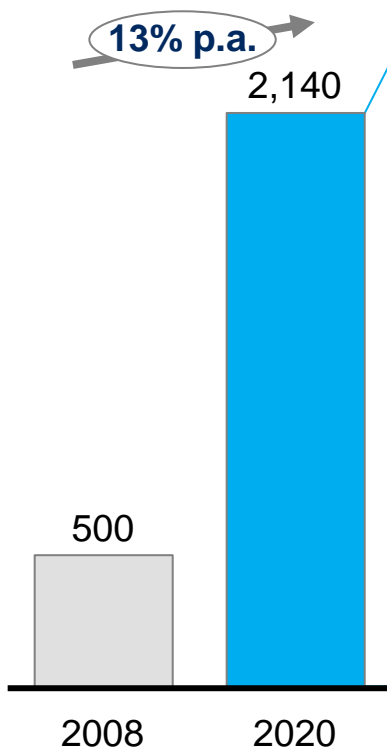
Global revenues 2008, EUR billions



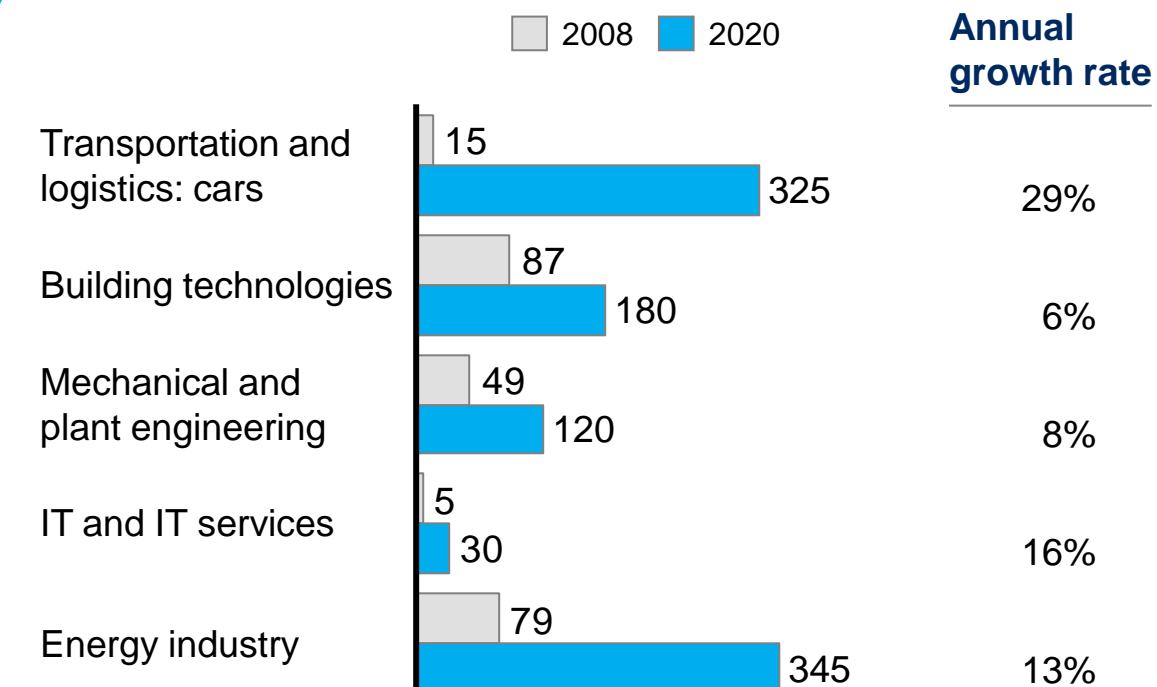
Growth centers will grow 13% p.a. and reach a global market potential of over 2 billion EUR in 2020

Revenue, EUR billions p.a.

Total, selected and other growth centers

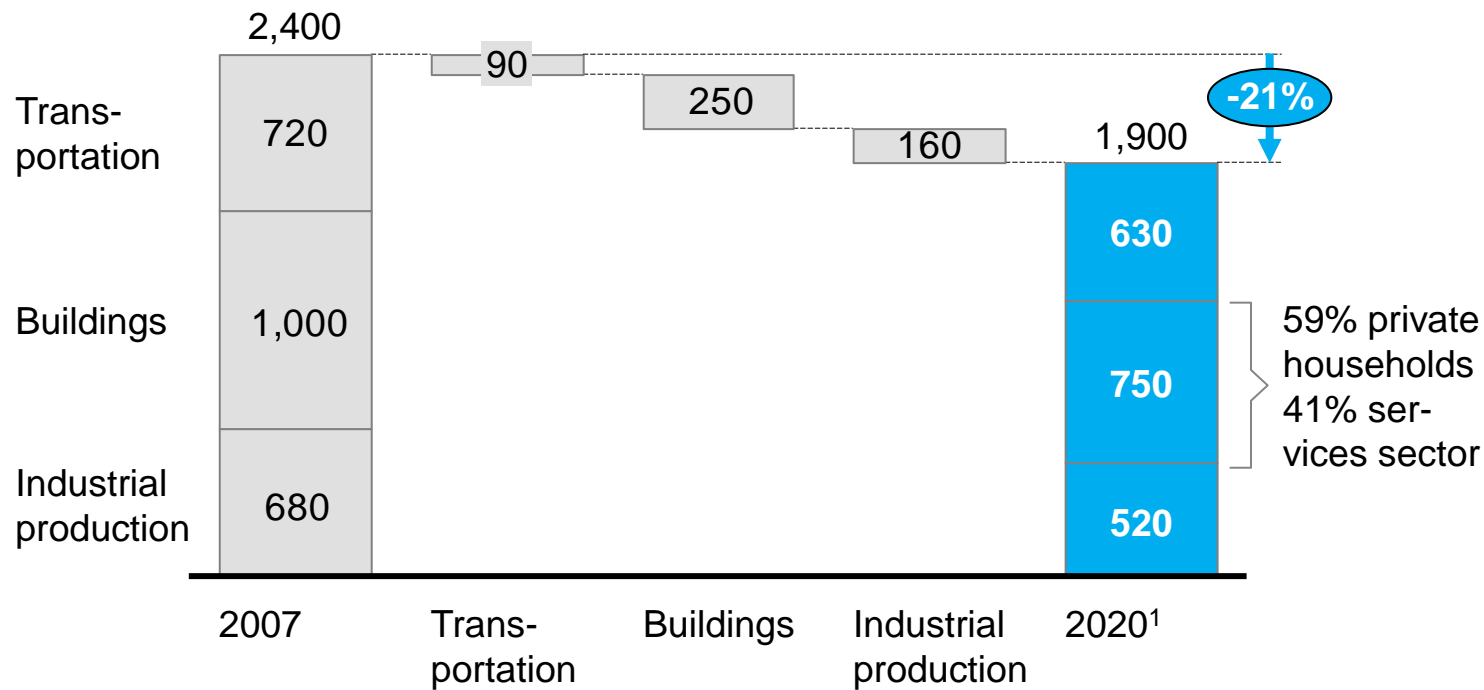


Development of selected growth centers within the relevant sectors



German companies and households can reduce their energy costs by 53 billion EUR p.a. in 2020

Final energy consumption in Germany, TWh p.a.



Energy cost savings

EUR billions p.a.

Additional savings of German companies abroad

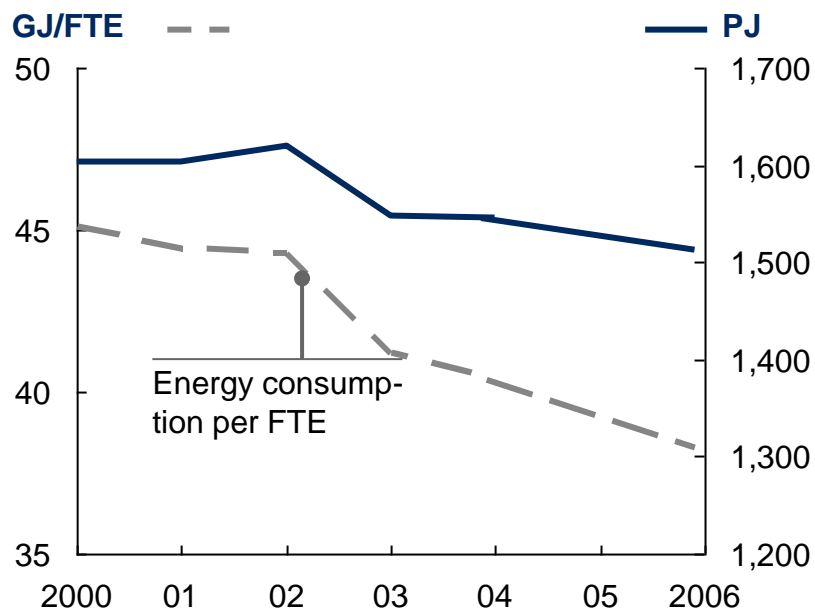
	Transportation	Buildings	Industrial production	2020 ¹
Energy cost savings	13	21	7	41
Additional savings of German companies abroad	9	0	3	12

Total savings potential as of 2020: EUR 53 billion p.a.

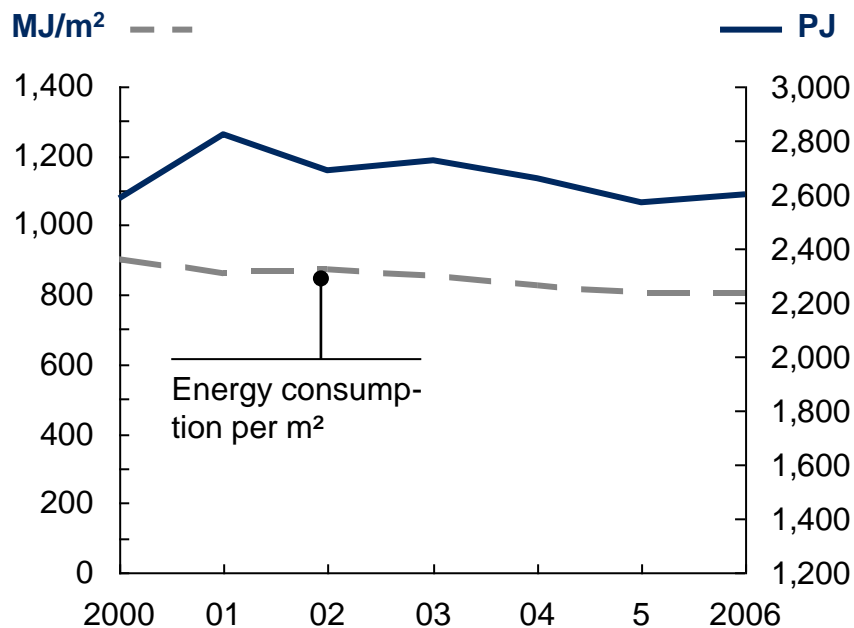
¹ To give a better illustration of the savings potential, the same usage patterns and economic performance as in 2007 were assumed

In commercial buildings, energy consumption dropped significantly; in private homes, it has remained relatively constant so far

Energy consumption in public/commercial buildings

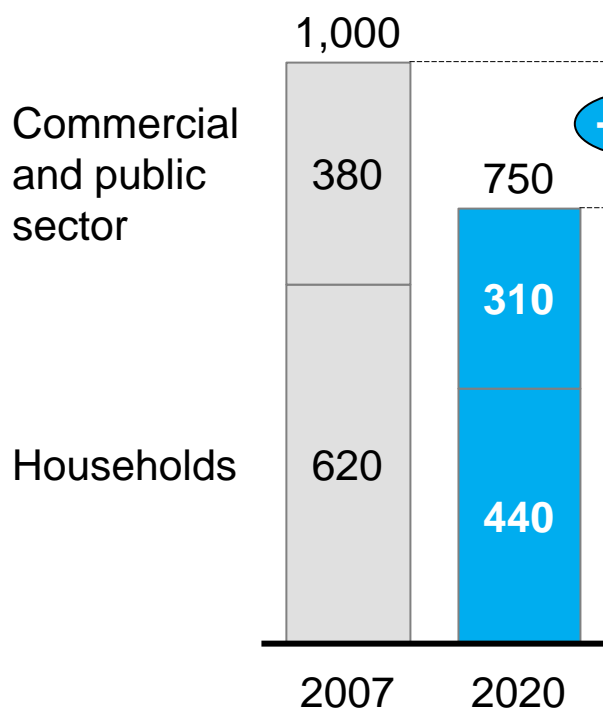


Energy consumption in private homes



Energy savings potential and technologies in the buildings sector

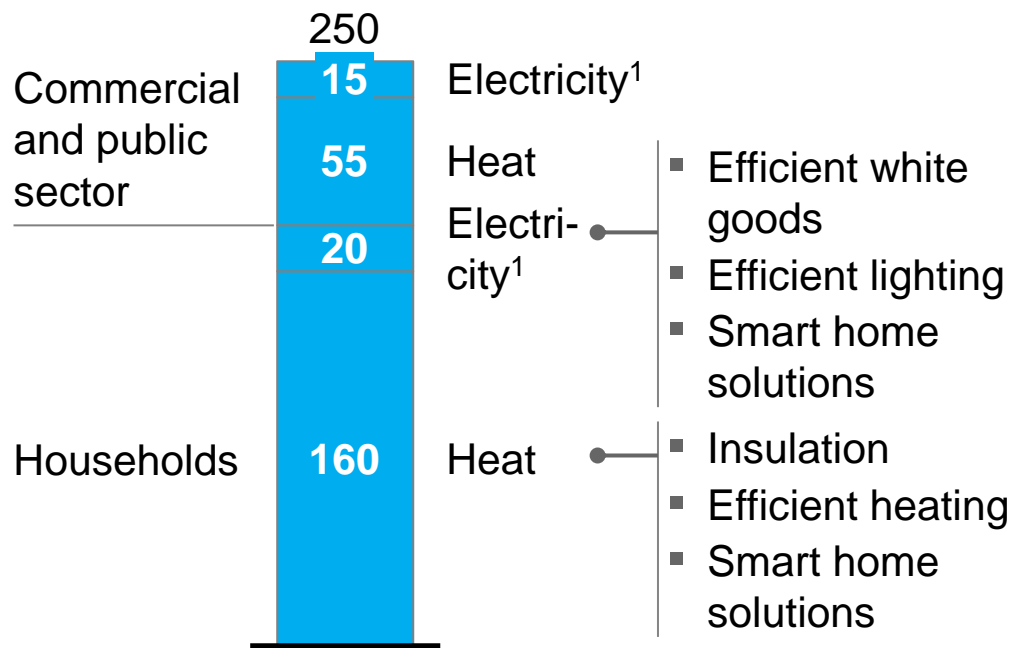
Final energy consumption in the buildings sector, TWh p.a.



Energy efficiency initiatives

TWh p.a.

Technologies

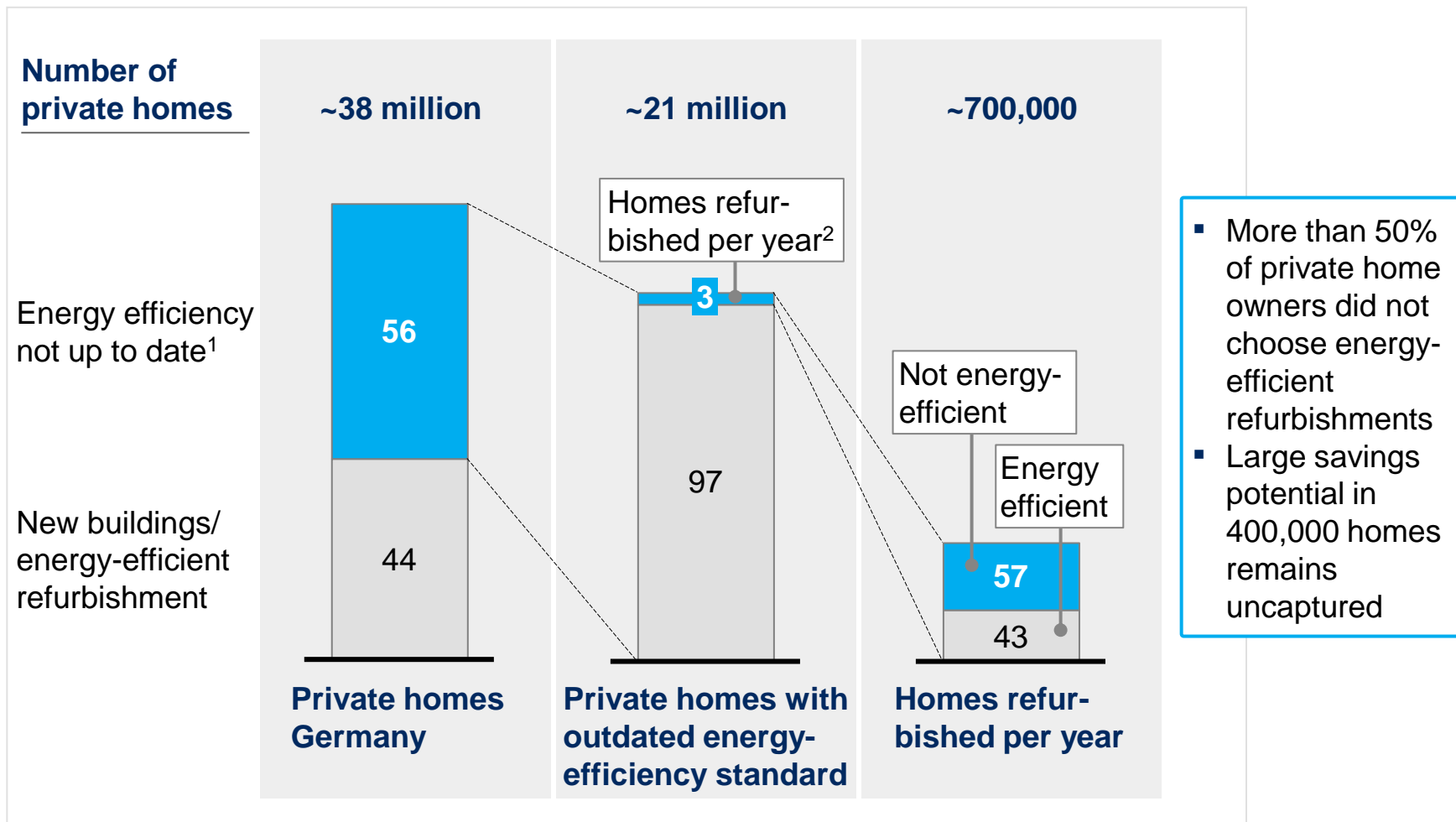


¹ Some of the electricity consumption in the buildings sector is used for heat generation (e.g., electric heating)

ROUGH
ESTIMATES

Of all home refurbishments every year, only an estimated 43% are refurbished according to energy-efficiency standards

Percent



1 Houses from before 1979 that have not been refurbished including energy-saving measures

2 Statistically derived assuming that buildings are refurbished after a period of 30-35 years

Key questions



- How can business models and innovative market approaches help increase the share of energy-efficient home refurbishments?
- Who are the natural owners of these promising new business approaches?

To successfully address the energy efficiency potential in buildings, the various groups of home owners and their individual barriers to undertake energy-efficient refurbishments need to be understood

Main barriers to undertake energy-efficient refurbishments by segment

1 Private landlords

- Inconveniences and legal requirements of process
- Determining profitability of measures
- Ability to refinance measures
- Personal financial considerations such as long payback periods
- Lack of interest/information

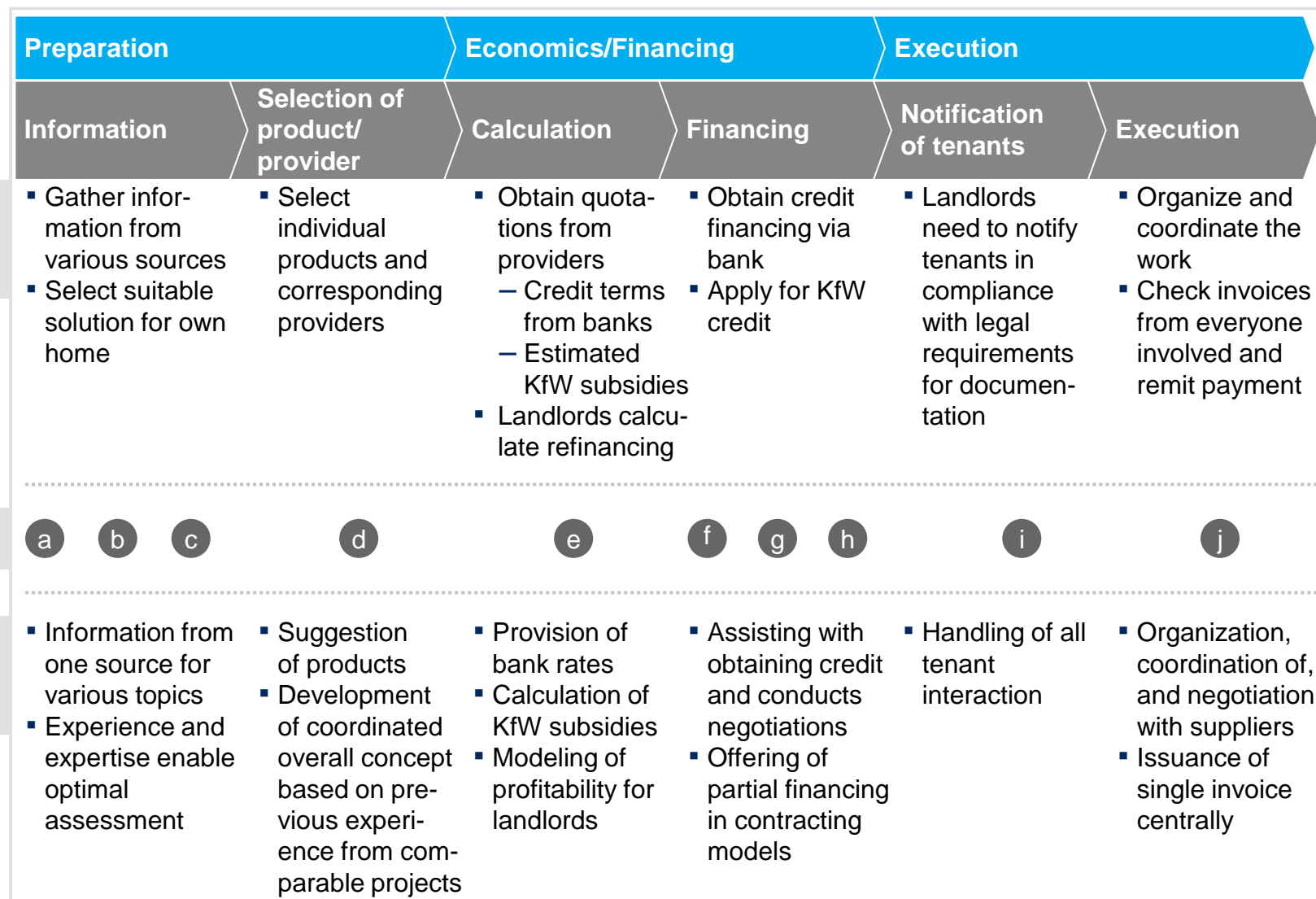
2 Institutional landlords

- Ability to refinance measures in current legal framework and market conditions

3 Owner-occupants

- Long payback periods
- High complexity of measures
- Lack of interest/information
- Work is largely “do-it-yourself” and/or “off the books”

Package offers of full refurbishments can add significant value by addressing many issues along the value chain



1 Business models for private landlords should include easing of the process with the tenants and profitability calculations

Value chain	Major barriers to energy-efficient refurbishment	Addressability	Core features of business models
Preparation	a Lack of general information or interest		<ul style="list-style-type: none"> Provision of information tailored to landlords
	e Calculation of profitability		<ul style="list-style-type: none"> Advising on profitability of measures and options/likelihood for refinancing
Economics/financing	f Ability to refinance		<ul style="list-style-type: none"> Ability to refinance depends on market conditions and the legal framework, and cannot be influenced
	h Long payback periods		<ul style="list-style-type: none"> Might be partially addressable by contracting models
Execution	i Process and legal requirements of tenant notification		<ul style="list-style-type: none"> Handling required documentation with tenants and potential claims

- Many major obstacles can be addressed by business models
- Market conditions and economics of individual properties subject to laws on rent increases cannot be influenced
- Investment requirements might be partially addressed with contracting options

Each faces different advantages and disadvantages that can be addressed by shaping an ideal model for each provider

Potential providers	Advantages provider	Disadvantages provider	Ideal model
Provider of refurbishments	<ul style="list-style-type: none"> Additional revenue from selling energy-efficient refurbishment instead of a conventional refurbishment Opportunity-driven approach without significant additional acquisition costs 	<ul style="list-style-type: none"> Debt burden: firm must finance refurbishment in advance through credit As an SME, less able to deal with long-term contracts and risk of payment default Additional cost burden incurred for billing/controlling 	<ul style="list-style-type: none"> SME construction company sells energy-efficient refurbishment as a complete package and recoups the additional energy-efficiency costs by contracting for (retaining) part of the savings Billing cooperation with local utility or Sale of contracting product to a bank or utility; or negotiation with bank to obtain variable repayment terms in line with payments received from household
Insulation material producer	<ul style="list-style-type: none"> Additional revenue by selling more and higher-value materials Generally, of bigger size than the firm executing the work; thus financially more robust 	<ul style="list-style-type: none"> Additional acquisition costs incurred for communication/cooperation with construction firm/skilled trades people who execute refurbishment 	<ul style="list-style-type: none"> SME construction company executes refurbishment with products made by insulation producer The latter provides financing for contracting
Energy provider	<ul style="list-style-type: none"> Simple billing without significant additional costs Long-term retention of established customers and acquisition of new customers As large-scale firm, financially more robust ("deeper pockets") 	<ul style="list-style-type: none"> Time and expense of cooperating with fragmented local market of refurbishment providers 	<ul style="list-style-type: none"> Local utility offers to cooperate with local construction company, which executes refurbishment and negotiates contract with households Local utility becomes later power supplier Contract is handed over to the utility, which handles back-office processes