

# ACTIVATING CONSUMERS TO DEEP ENERGY REFURBISHMENT IN EUROPE



**QUALITY GUARANTEE IN DEEP ENERGY RENOVATION**  
*Are performance guarantees after renovation a burden or an  
opportunity? Do policy and practice meet or differ?*

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# Main influencing factors to ensure the performance of nZEB renovation

Policy and legal framework

Financial incentives and related standards

User behaviour ('rebound effect')

Skilled supply side

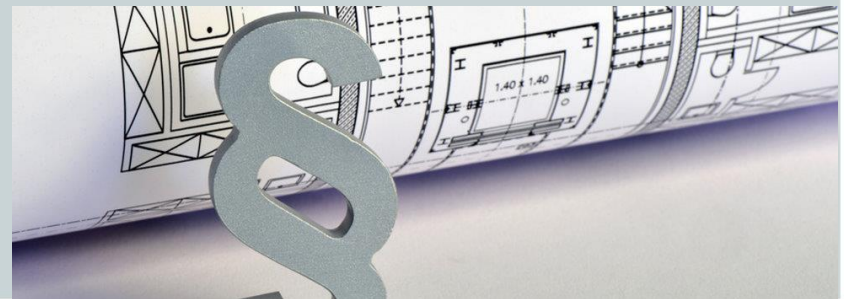
Step-by-step renovation plans to avoid lock-ins



# Policy and legal framework

## **Energy Performance of Buildings Directive (EPBD):**

- ▶ EU's main legislation covering the reduction of the energy consumption of buildings
- ▶ EPBD did not set targets for renovating existing buildings; but national action plans for the promotion of nZEB buildings



# Policy and legal framework

Energy renovation of residential buildings is part of numerous **national and regional regulations, action plans, and initiatives** in the REFURB countries. This fact illustrates the importance of energy renovation of residential buildings for energy saving in the building sector and climate change mitigation.



# Financial incentives and related standards



**Various quality assurance schemes and incentive structures** for energy saving and cost reduction for the homeowner: energy performance certificates, energy labels for components, performance requirements linked to grants or subsidies, tax deductions, energy portals, and energy performance contracts.



# User behaviour ('rebound effect')

**NO** guarantee to achieve the expected benefits, people adjust their behaviour to the technology - often pushing energy consumption up and undermining the effort to reduce carbon emissions



*homeowners should understand the implemented measures and use them appropriately*





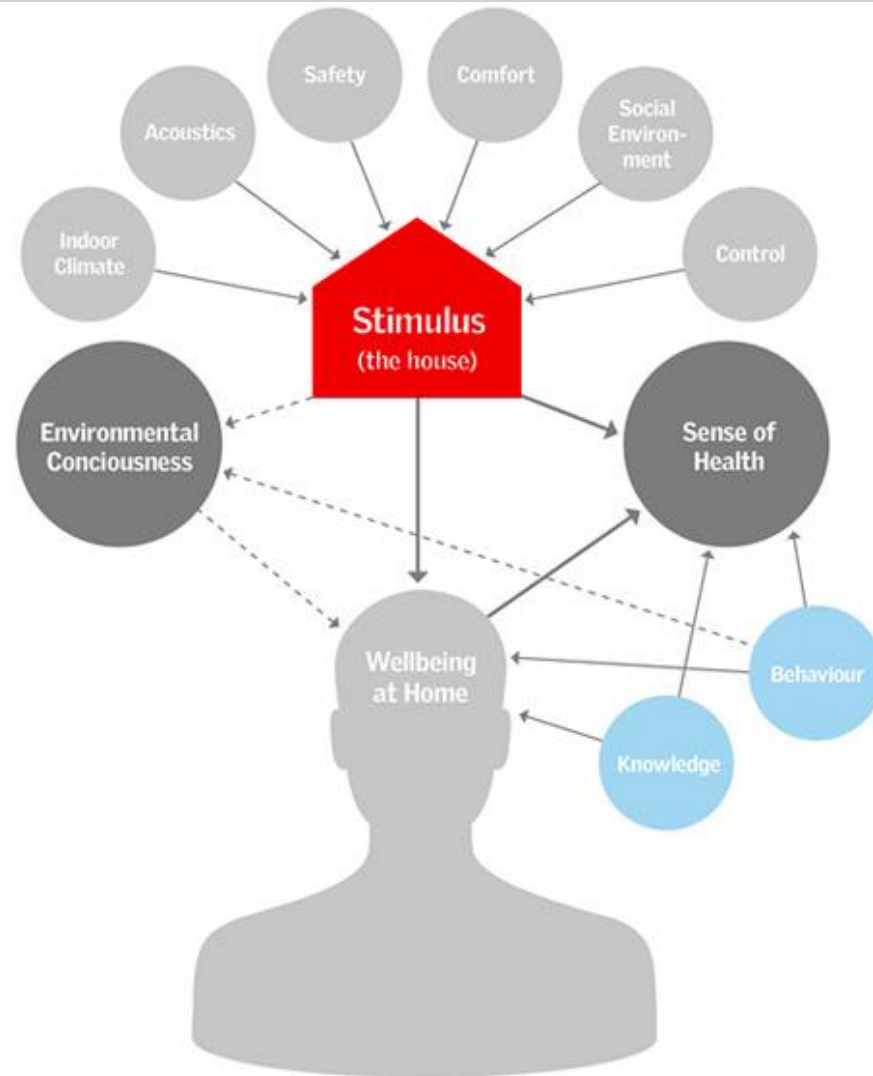
# Skilled supply side

**NEEDED:** well educated installers particularly for the products employed but ...

not only technical expertise - 'co-benefits' (e.g. comfort, health, better indoor climate, value retention)



co-benefits



Source: Velux

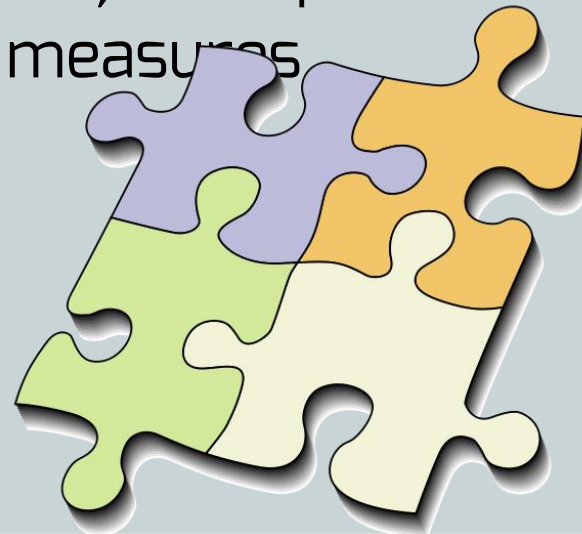


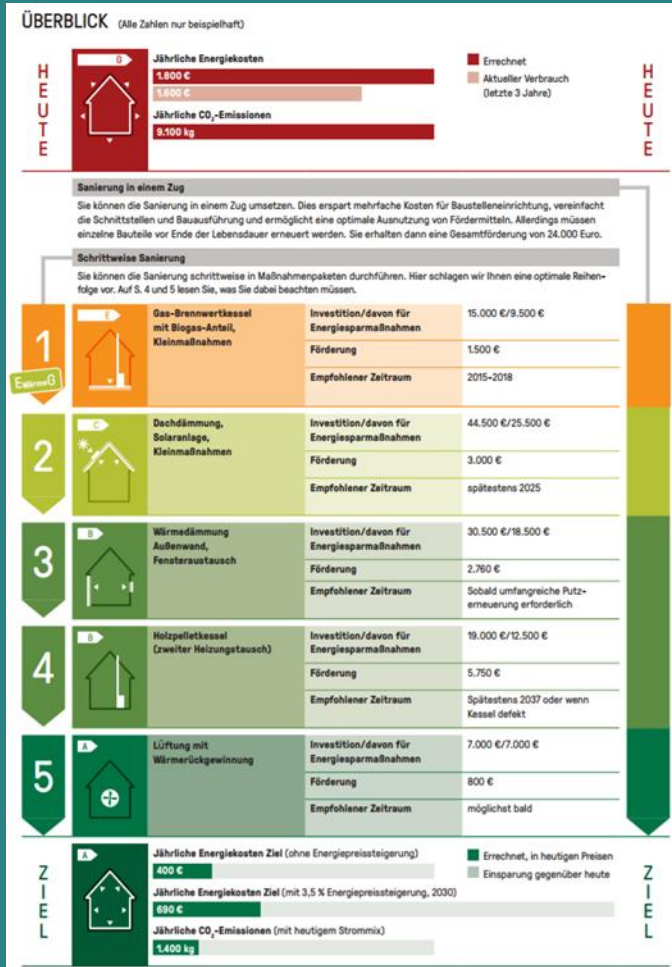
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# Step-by-step renovation plans to avoid lock-ins

Step-by-step renovation plans are per se a support tool to assure the quality of energy renovation because this instrument ideally anticipates all different stages and linked measures









 iSFP aims at understanding the individual needs of the homeowner and linking them with the (technical) capabilities of the building 

## iSFP = holistic instrument of dialogue and consultation

### main contents

-  **methodology:**  
on site-appointment of building + components, documentation, presentation
-  **standardised procedures:**  
defined parameter for data acquisition, valuation, documentation
-  **quality standards:**  
guidelines + checklists
-  **field tests:**  
proof of the practicability by energy consultants



# Conclusions

- ▶ lots of approaches, funding schemes, instruments, tools, and initiatives - **BUT** renovation rates still lagging behind political ambition
- ▶ technologies and expertise to build and renovate according to the regulatory context are available – what is still lacking is the wider dissemination and implementation of renovation measures towards nZEB
- ▶ limitations and burdens require a well-combined set of policies and measures reflecting the national circumstances



# Conclusions

- ▶ policy and installers should also address additional 'co-benefits'
- ▶ energy saving measures do not necessarily pay off due to and user behavior
- ▶ challenge is to foster the uptake of these offers and how to make it work for non-professional and non-expert homeowners
- ▶ step-by-step renovation plan should become an accepted standard and needs to be used by the majority of suppliers.





# refurb

## Thank you for your attention

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