



BUILDING RENOVATION PASSPORTS

Customised roadmaps
towards deep renovation
and better homes

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Emerging Examples Building Renovation Passports

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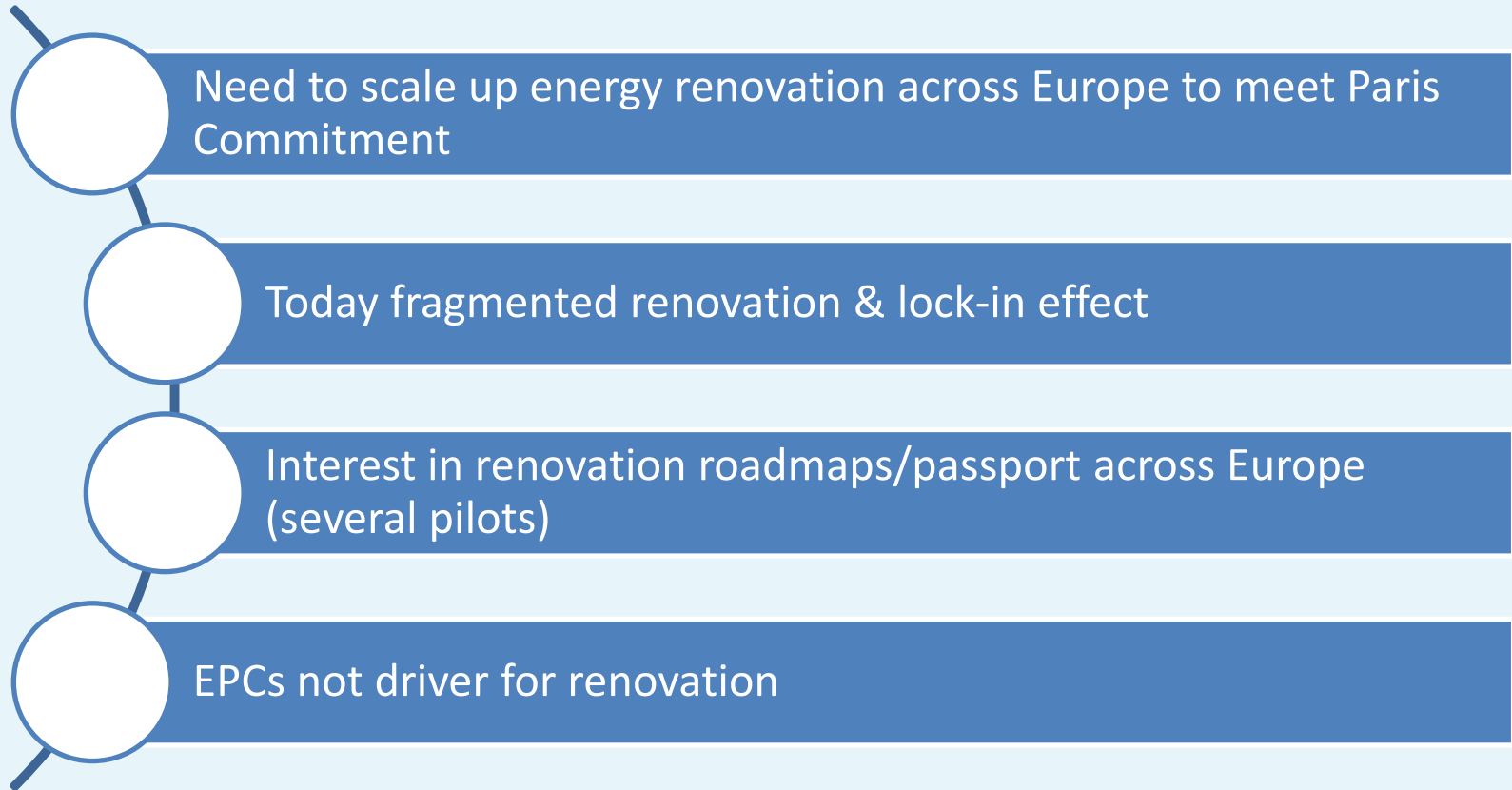
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Content

- Context
- What is a Building Renovation Passport?
- Case studies (BE, FR, GER): comparing features
 - What is deep renovation?(definitions)
- Lessons learnt

Challenges



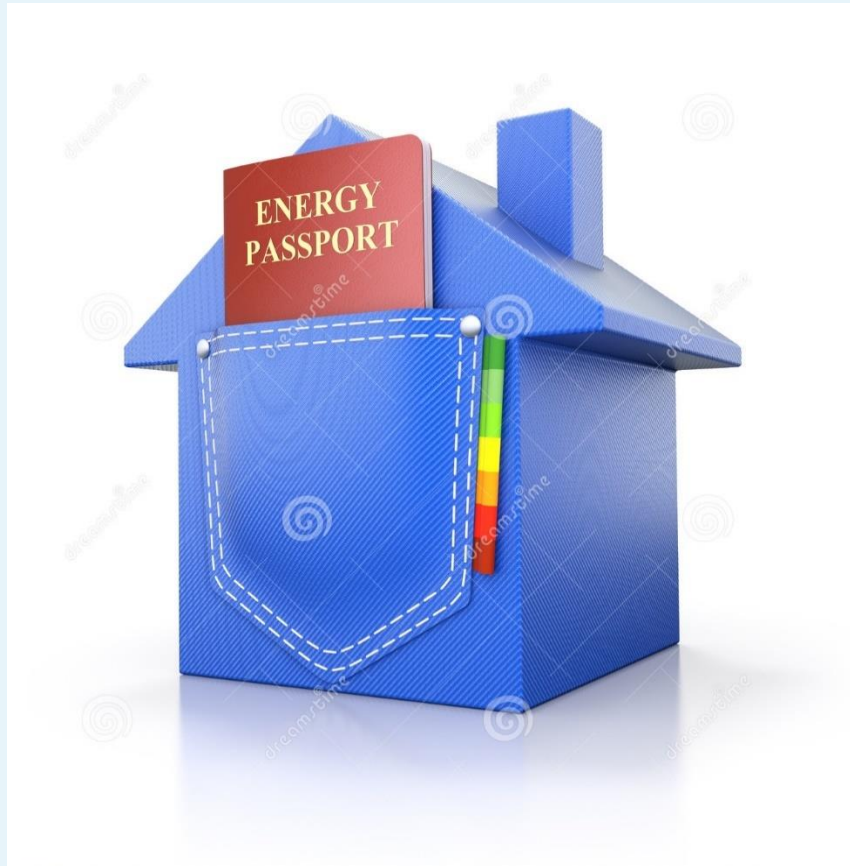
Building Renovation Passports as potential solutions
Three case studies: Belgium(Flanders), France and Germany

Common barriers

- Building owner lacks information (what to do, where to start, and which measures to implement in which order?)
- Renovation perceived as a burden (time, money and *dust*)
- Insufficient training for auditors beyond technical aspects (how to convince to start renovation after the audit?)
- Limited financial resources - upfront costing
- Complex legislation and 'stop and go' support measures



What is a Building Renovation Passport?



a. Renovation Roadmap:

A document outlining a long-term (up to 15 or 20 years) step-by-step renovation roadmap for a specific building, resulting from an on-site energy audit fulfilling specific quality criteria established in dialogue with building owners.

b. Logbook:

A repository of all building-related information (e.g. energy consumption and production, executed maintenance and building plans).

BUILDING RENOVATION PASSPORT

1. DATA GATHERING ON INDIVIDUAL BUILDING LEVEL

On-site Energy Audit

External experts: energy auditors, installers (dialogue with owners)

On-site Data Gathering

- **By building owners or tenants** (e.g. executed works, characteristics of installed equipment)
- **Automated data:** e.g. smart meters, monitoring systems (e.g. RES, heating, CO2 meters, etc.)

2. PROCESSING THE DATA

3a. RENOVATION ROADMAP (Deep “Staged” Renovation)

- Comprehensive audit
- Long-term perspective
- Considering individual context
- Systematic renovation in a sensible order and packages

3b. BUILDING LOGBOOK

1. Inventory of non-dynamic information
2. Interactive tool
3. Linking building owners (users) and third parties

Case studies: comparing features

Common elements:

- ***Voluntary tool*** (complementary to EPC)
- ***Political support***: direct support (Germany and Flanders) or interest (France)
- ***Ambition***: long term renovation targets (deep renovation or long term efficiency levels)
- ***Open dialogue with building owners***: building owners are at the centre of the process (customised measures)
- ***A new way to measure comfort*** (qualitative element)

Case studies: comparing features

Building Renovation Passports



Process	BE- Flanders	France	Germany
Definitions (Deep or staged deep renovation and/or alternative definition)	✓	✓	✓
Long term target for existing building stock (2050)	✓	✓	✓
Barriers	✓	✓	✓
Stakeholders mapping	✓	✓	✓
Stakeholders engagement	✓	✓	✓
Energy Audit	✓	✓	✓
Auditors' training	✓	✓	✓
Tailored solutions	✓	✓	✓
Logbook/Database	✓	✓	X



What is deep renovation?

- **Flanders:** Reference to a *long-term efficiency objective*:
 - Existing buildings must achieve an efficiency level of E60 by 2050 (100 kWh/m² gross surface)
 - Set of measures for building elements
- **France:** the renovation of a given dwelling reaching high levels of efficiency in one go (global renovation) to achieve BBC levels of renovation = 80 kWh/m² of primary energy per year
 - P2E tries to reconcile this definition with a staged approach (renovation is paced out over a longer horizon)
- **Germany:** “*Best possible principle*”
 - Building stock has to achieve an average efficiency level of 30-40 kWh/m²/a (KfW’s Efficiency House 55)
 - Auditors have to recommend the most ambitious standards and options for each building (and justify if not possible)

Flanders (BE)

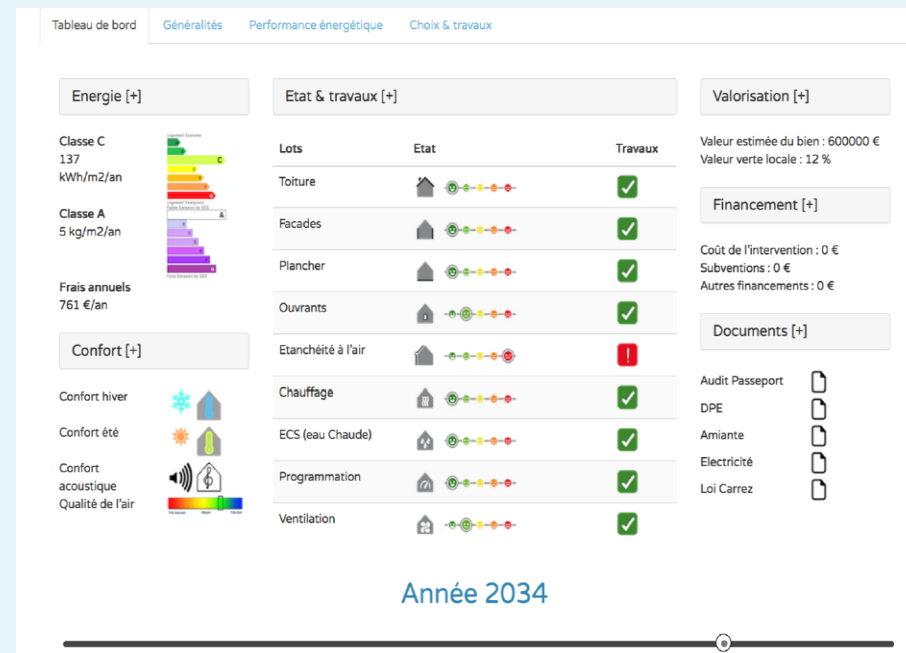
Woningpas (Dwelling ID)

- Directly linked to EPCs (Renovation Advice and EPC+)
- Introduces the notion of ***Digital Logbook***:
 - Accessible by property owners and authorised third-persons (e.g. craftsmen, architects, notaries)
 - Follows the long-term evolution of each house
 - Collects data on energy performance, renovation advice, housing quality, building features (stability, installations, humidity level, etc.) and other data related to the property (e.g. inspections, access to financing)
 - Could be used by potential buyers to get first glimpse about building's overall 'health check'

France

Passeport Efficacité Energétique (P2E)

- Energy Transition Act (2015):
 - Renovation of all class F&G building by 2025
 - All buildings must be in class A&B(BBC levels) by 2050
- Based on a combination of measures based on building type / age/ location
- Attempt to 'industrialise' the renovation process and lead to economies of scale
- Web platform
- Three main users (owners, auditors and professionals)

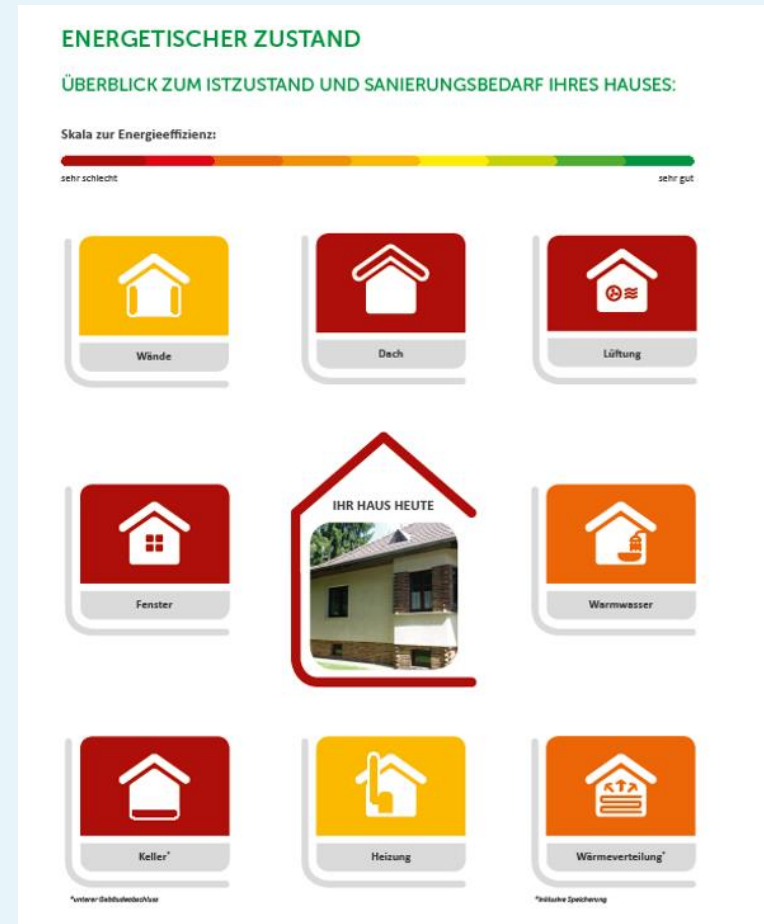


Source: The Shift Project

Germany

Individueller Sanierungsfahrplan (individual renovation roadmap)

- Included in the National EE Programme and the Federal Efficiency Strategy for Buildings
- Not linked to EPC
- Modelling used can simulate impact of each renovation on the overall EE target
- New skills required for the energy auditor
- Based on pilot in Baden-Württemberg
- No logbook



Source: ifeu, DENA, PHI

Lessons learnt

Common guiding principles and policy recommendations

Long-term perspective

- Vision for building stock 2050, definition of deep renovation or energy efficiency levels required

Timing and sequencing of actions

- Short-term and long-term measures included, order of implementation key to achieve deep renovation

Customer engagement and individual context

- Put the owner at the centre (wishes, needs, constraints)

User-friendly tool (for the auditors and the users)

- Make it easy to understand/use/promote
- Auditors as ambassador for deep renovation

Lessons learnt

Common guiding principles and policy recommendations

Automation

- Easy to use for the energy experts (modular blocks, default values, highlights errors/anomalies, etc.)

Stakeholder engagement

- Go beyond the building sector (behavioural experts, data analysts, communication strategists)

Promote comfort as a driver for renovation

- Clearly indicate positive impacts on comfort
- Include indoor air quality, acoustics, lighting, daylight, fresh air supply among main indicators

Provide appropriate regulatory framework (EPBD)

- Long-term vision for EU building stock, link BRP to EPC, common approach to deep-staged renovation (including tools and methodological guidelines)

Thank you for your attention

Find the report at:

<http://bpie.eu/publication/renovation-passports/>

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