Building Energy Ratings and Building Renovation Passports in EU renovation

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90% of our time is spent indoors

97% of EU buildings is not future proof
Main EU challenge: Renovation of existing building stock

75 to 90% of the current building stock will remain in use in 2050.
Which renovation?

DEEP RENOVATION

HOLISTIC DEEP RENOVATION

STAGED DEEP RENOVATION
Energy Performance Certificate in EU legislation

**EPBD I (2002/91/EC)**
- Integrated EPC methodology
- Mandatory energy performance certification system for new and existing buildings;
- Display of EPC for buildings occupied by public buildings (>1000 m²)

4 January 2009; deadline for implementation of EPBD I

**EPBD (2010/31/EU)**
- Independent quality control of EPC (Art.18)
- Penalties for non-compliance (Art. 27)
- Display of the energy label in the advertisements
- Display of the EPC on the frequently visited public buildings (>500m²; >250 m²)
- Mandatory requirement to hand out the copy of the EPC at the sale and rent transactions
- Improvement in EPC recommendations (cost effective and cost optimal measures)
- Verification of expert competence in the accreditation procedure

9 January 2013; deadline for implementation of EPBD
How to ensure quality of EPC?

- Requirements for the certifier (Art 17, EPBD)
- Accreditation process and register of certifiers (Art 17, EPBD)
- Minimum education and training requirements
- Continuous professional development (CPD)

QUALIFICATIONS & ACCREDITATION OF CERTIFIERS

- Independent control of EPCs (Art 18, EPBD)
- Penalties for non-compliance (Art 27, EPBD)
- Independent control of certifiers

QUALITY CONTROL & PENALTY SYSTEM

- EPC calculation method (Art 3, EPBD)
- Choice of the calculation software;
- Collection of input data.

UNDERSTANDING THE BENEFITS OF THE EPC SCHEME

METHODOLOGY

- EPC calculation method (Art 3, EPBD)
- Choice of the calculation software;
- Collection of input data.

PROBLEM OPPORTUNITY
EPC are not driving renovation

Do you think there is a link between EPC’s and the improvement of the EE of buildings?

- Yes: 31%
- No: 45%
- Don't know: 24%
ENERGY PERFORMANCE CERTIFICATE
Informs potential buyers/tenants

BUILDING RENOVATION ROADMAP
Personalised guidance for (all) owners

FOR RENT - SALE
What is a Building Renovation Passport?

DATA GATHERING

ON-SITE AND OFF-SITE
- General Information & Administration
- Building construction information
- Building energy performance (such as EPC information)
- Building operation & use
- Smart information

PROCESSING

BUILDING RENOVATION PASSPORT

RENOVATION ROADMAP
- Renovation steps in a sensible order
- Comprehensive audit
- Long-term perspective
- Tailored to individual context

BUILDING LOGBOOK
- Inventory of building-related information
- Manage and monitor real-time energy consumption
- Functionalities to users
- Linking building owners (users) and third parties
Case studies

- BetterHome
- Woningpas and EPC+
- Passeport Efficacité Énergétique
- individueller Sanierungsfahrplan
Common features

- **Voluntary tool**: complementary to EPC (EC feasibility study by 2020)
- **Ambition**: long term renovation targets (deep renovation or long term efficiency levels)
- **Customer-oriented**: owners are at the center of the process (customized measures)
- **Valorize comfort**: (qualitative indication to facilitate understanding and valorize non-energy benefits)
KEY ELEMENTS OF THE RENOVATION ROADMAP

On-site visit and energy audit
- DE: 7-step process
- FR: links individuals, energy auditors and craftsmen
- DK: energy expert’s dialogue guidelines

Performance indicators to measure progress
- What does the owner want?
- What policy objectives?
- What to measure to implement & monitor performance improvement?

Guidance & Recommendations
- The building's condition and renovation needs
- Proposed measures and expected improvements
- Detailed description of the suggested measures

Simplified information
- Checklist
- Automation & online application
- Relationship building
KEY ELEMENTS OF THE BUILDING LOGBOOK

Data gathering
- Credibility depends on the reliability of data
- Authentic building data managed by trustworthy sources
- Identify which data users find most interesting

Ownership and privacy
- Balance between 1) effectiveness
  2) privacy legislation & user concerns (new GDPR)
- BE (FI): building owners have access with electronic ID card and can authorise access to public authorities and other actors

Functionalities
- Different services according to specific preferences
- Go beyond energy
- Add functionalities over time
Flanders: modular roadmap

v 0.1 “Light”
- Integration of certificates
- Retrieving certificates
- Inform the citizen and feedback

v 0.2 “Medium”
- Messages on duties
- Authorization
- Dwelling quality: check-tool
- Upload supporting documents

v 1.0 “Full”
- Renovation advice & update
- Tailored grants and loans

v 2.0
- All parties connected
- Reporting to policy

v 3.0
- Integration smart meters, smart buildings
- Automatic Advice

MINISTRY ON ENERGY
MINISTRY ON HOUSING
MINISTRY ON ENVIRONMENT

FORMAL AGREEMENT
NEW PARTNERS
Thank you...

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