WEBINAR SERIES

Future-proof EPBD: Let's deliver beyond the Renovation Wave!

SECOND WEBINAR

EPC 2.0: Dynamic tools and approaches for ambitious energy renovations

Thursday, 27 May 2021, 10:00 - 11:30 CET

EuroACE
Energy Efficient Buildings

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Welcoming Remarks

Adrian Joyce
EuroACE Secretary General

EuroACE
Energy Efficient Buildings

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Instructions

- You are kindly asked to remain muted
- No cameras for the whole duration of the webinar
- Only speakers and moderator will stay unmuted
- Two Q&A sessions will follow each panel discussion
- Ahead and during the Q&A session, questions will have to be sent to “Everyone” in the GoToMeeting chat box.
- Questions should be as concise as possible
- The moderator will group questions and then address them to the speakers
- If time does not allow to cover all questions, they will be forwarded to the speaker for later response
- The PowerPoint presentation and questions will be shared with you in due course

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EuroACE – Energy Efficient Buildings

- The European Alliance of Companies for Energy Efficiency in Buildings
- Formed in 1998 by Europe’s leading companies involved with the manufacture, distribution and installation of energy saving goods and services
- A business association working together with the European institutions to help Europe move towards an efficient use of energy in buildings (new and renovated)

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Energy Efficient Buildings

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EuroACE – Energy Efficient Buildings

** More than 220,000 employees & more than 1,100 production facilities and office locations in the EU **

Our specificity: our cross-sector representativeness

We represent all energy efficient technologies

>>> heating & cooling equipment, insulation, lighting, maintenance regimes and controls, ventilation equipment & windows

AERECO armacell AUTODESK. Carrier DAIKIN Danfoss GRUNDFOS Johnson Controls Kingspan KNAUFINSULATION ROCKWOOL SAINT-GOBAIN signify URSA VELUX

EuroACE Energy Efficient Buildings

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EuroACE – Energy Efficient Buildings

We believe that improving the energy efficiency of buildings, especially renovating existing buildings, is the most cost-effective method of:

- Creating employment and securing economic growth
- Alleviating energy poverty on the long-term
- Providing people with comfortable and healthy homes
- Meeting carbon reduction targets
- Achieving energy security

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EuroACE – Renovate Europe Campaign

RENOVATE EUROPE

EU-wide political communications campaign
Focuses exclusively on ambitious energy renovation of the building stock, motivating EU and national institutions to take action
47 partners, including 18 at national level
High political support with the Champions Together for Renovation

#PrioritisePeople
#AccelerateRenovation
#Renovate2Recover

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Today's agenda

10:00 | **Opening remarks and guidance to participants** - Adrian JOYCE, EuroACE

10:05 | **How to deliver user-friendly EPC to consumers?** - Guillaume JOLY, The European Consumer Organisation (BEUC)

10:15 | **Next Generation EPCs: boosting quality and convergence of EPCs towards deeper renovations** - Maike VENJAKOB on behalf of QualDeEPC

10:25 | **How to link EPC with building renovation passports and digital logbooks** - Marta Maria SESANA on behalf of EPC-RECAST

10:35 | **Q&A Session moderated by:** Adrian JOYCE, EuroACE

10:50 | **Creating an EU framework for Building Renovation Passports: what are the needed elements?** - Marion JAMMET, Irish Green Building Council

11:00 | **Creating an EU framework for Digital Building Logbooks: what are the needed elements?** - Sophie DOURLENS-QUARANTA, R2M Solution

11:10 | **Q&A Session moderated by:** Adrian JOYCE, EuroACE

11:25 | **Conclusions** - Adrian JOYCE, EuroACE

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How to deliver user-friendly EPC to consumers?

Guillaume Joly
The European Consumer Organisation (BEUC)

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BEUC The European Consumer Organisation
The Consumer Voice in Europe

Energy Performance Certificates

How to make EPCs consumer-friendly

BEUC presentation to the EuroACE webinar on EPBD
May the 27th - 2021

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BEUC – the European Consumer Organisation

- BEUC members are national consumer organisations.
- BEUC new workstream on Energy: residential retrofit and energy efficiency, decarbonisation of heating and cooling.
- Renovation wave and the Fit for 55 strategy (EED-EPBD).

- EPCs should be designed as a marketing tool, fit in a from A to Z advice and support service to consumers.

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General observations from BEUC Members

- As identified in the EPBD, the consumers the most in need of information on energy performance (and its cost) are prospective buyers and prospective tenants.
- The implementation at the national level is quite diverse: costs, accreditation and skills, adaptation to consumers' profile…

- If EPCs have been of some use, the general observation from our Members is that their reliability needs to be improved.

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Observations from UK Member Citizens Advice

- A Citizens Advice study highlights the inconsistencies of EPCs as they can vary significantly: a research on past schemes found that different assessors gave the same property a significantly different EPC rating.
- This undermines their key purposes to help consumers to understand and make decisions to improve the performance of their homes.
- It also creates knock-on problems for policies that use EPCs ratings for example as qualifying criteria or as a benchmark of success

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Observations from Portuguese Member DECO

- EPCs are too technical and too complicated to be easily understood by households.
- EPCs can also be inaccurate: an example of a tenant in a multi-unit building who was suggested to install exterior insulation to the flat, when windows were single-glazed and did not lead to any recommendation.
- EPCs do not properly factor in each households situation: houses, multi-unit, tenants, owner occupiers.

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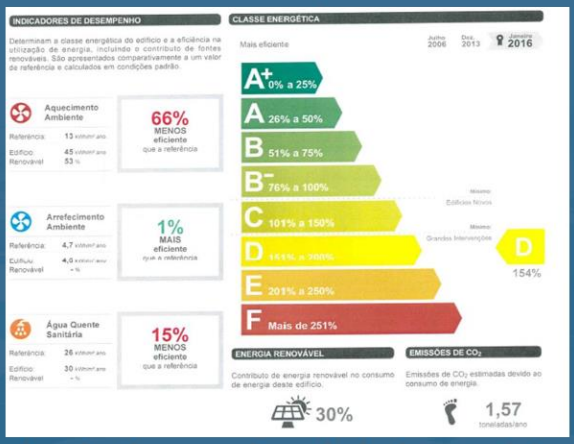
Observations from Portuguese Member DECO



Clear design by the use of symbols, logos, pictograms, etc.

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Observations from Austrian Member Arbeiterkammer Wien

- Misleading key information for multi-unit building with a common external energy supply via district heating, for both space and water heating.
- This is especially true for water heating during summer months, where the influence of district heating is not accurately factored in.
- EPCs only consider central heating in multi-unit, so the performance of buildings with individual heating is poorly estimated.
- District Heating is meant to expand in the EU: EPCs should factor DH in

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Observations from French Member UFC – Que Choisir

- Assessors, their training and professionalism are the key factor that explain EPCs inconsistencies.
- A study from 2017 on 7 homes and 34 EPCs concluded that none of the homes received two consistent EPCs.
- Prices vary from 90€ to 270€, without indication of improved reliability.
- Bribes were observed when EPCs are a condition to access a specific loan (i.e. 0% interest)

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Observations from French Member UFC – Que Choisir

- In France, a law voted in November 2018 will come into force in July 2021 and make the EPCs legally opposable: the assessor's responsibility can then be engaged (i.e. after a control, access to loan is refused).
- BEUC is also supportive of:
  - New technical measures to improve the reliability,
  - Improved training and tighter accreditation of assessors,
  - Reinforcing controls.

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What do Consumers actually expect as advice?

- Consumers undertake a retrofit project to improve their comfort, which is linked to healthy living conditions. Energy savings are a key component too.
- Regarding health, clear indication on summer comfort and dampness management and ventilation are needed: clear point of improvement of the methodology here.

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What EPCs are and what they should not become

Compared to energy audits, EPCs are not as precise and accurate. To illustrate, we can draw a comparison with hiking:

•EPCs are the short hike description in terms of the level of difficulty, length, and average timing.

•Energy audits are the topographic map, linked to a roadmap that provides step by step guidance on the road to follow, its intersections, elevation and landmarks.

EPCs are meant to remain marketing tools and should not be considered as substitutes for energy audits. Improving the reliability and content of EPCs does not and should not have to mean more technical content and significantly higher prices.

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Key recommendations from the Sustainable Housing position paper

- Energy Performance Certificates (EPCs) should be less technical, easier to read and display more practical information for consumers and installers.
- EPCs should integrate information from the local market to become more accurate and more consistent so that consumers can have objective comparison ground (i.e. average costs of works)
- Consumers should be able to compare performances and average costs based on local conditions for scenarios that combine technical and financial aspects, for each EPCs.
- Reinforce the accountability of energy assessors in order to improve the reliability of EPCs

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Link - position papers

1. Energy Performance Certificates

https://www.beuc.eu/publications/beuc-x-2021-046_how_to_make_epcs_consumer-friendly.pdf

2. Sustainable Housing

https://www.beuc.eu/publications/beuc-x-2021-019_how_to_make_green_and_healthy_housing_affordable_for_all_consumers.pdf

3. Decarbonisation of heating and cooling

https://www.beuc.eu/publications/beuc-x-2021-017_heat_decarbonisation.pdf

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Next Generation EPCs: boosting quality and convergence of EPCs towards deeper renovations

Maike Venjakob
on behalf of QualDeEPC

EuroACE
Energy Efficient Buildings

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QualDeEPC

HIGH-QUALITY ENERGY PERFORMANCE ASSESSMENT AND CERTIFICATION IN EUROPE ACCELERATING DEEP ENERGY RENOVATION

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847100.

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Qual DeEPC

Next Generation EPCs: boosting quality and convergence of EPCs towards deeper renovations

Maike Venjakob – Wuppertal Institut

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Qual DeEPC

QualDeEPC Partners

Wuppertal Institut

dena Deutsche Energie-Agentur

EPC

CIT Energy Management AB
A Chalmers Industriteknik company

FEDARENE

MŰEGYETEM 1782

escan s.a.

ENERGIAKLUB
CLIMATE POLICY INSTITUTE
APPLIED COMMUNICATIONS

Ekodoma
Sustainable Energy Solutions

КАПЕ CRES

ЕНЕРГИЙНА АГЕНЦИЯ ПЛОВДИВ
ENERGY AGENCY OF PLOVDIV
save-agency

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Objectives

Enhance EPC assessment, certification, and verification, regarding

(1) the **quality and cross-EU convergence of Energy Performance Certificate (EPC) schemes**, including building assessment and EPC issuance, design, verification, and use;

(2) the **link between EPCs and deep renovation**.

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Draft Solutions from QualDeEPC:
GREEN PAPER on good practice in EPC assessment, certification, and use

https://qualdeepc.eu/green-paper-on-good-practice-in-epc-assessment-certification-and-use

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QualDeEPC– 7 development priorities

Green paper holds draft status of development for the seven priorities QualDeEPC identified in its first phase:

A. Improving the **recommendations** for renovation, provided on the EPCs, towards deep energy renovation
B. **Online tool** for comparing EPC recommendations to deep energy renovation recommendations
C. Creating **Deep Renovation Network Platforms**
D. Regular **mandatory EPC assessor training** (on assessment and renovation recommendations) required for certification/accreditation and registry
E. High **user-friendliness** of the EPC
F. Voluntary/mandatory **advertising guidelines** for EPCs
G. Improving **compliance** with the mandatory use of EPCs in **real estate advertisements**

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QualDeEPC– 7 development priorities

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B) Online tool for deep energy renovation recommendations

- Master tool based on the Greek Home Energy Check tool
- Aim:
  - User-friendly user interface for building owners: allowing “2nd opinion“ on recommendations from an EPC, or „1st opinion“ if no EPC exists
  - Estimating the energy demand of a specific building
  - Suggestions for renovation recommendations towards deep energy renovation
  - Comparison between current and renovated state
  - Recommendation to obtain energy audit to validate energy demand and recommendations

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B) Online tool for to deep energy renovation recommendations

- Input values
  - Building type (out of seven or more suggestions)
  - Geografical area/ climate zone
  - Specifics on building envelope (U-values)
  - Specific systems for heating, cooling, domestic hot water, and air conditioning
  - Renewable energy sources already used

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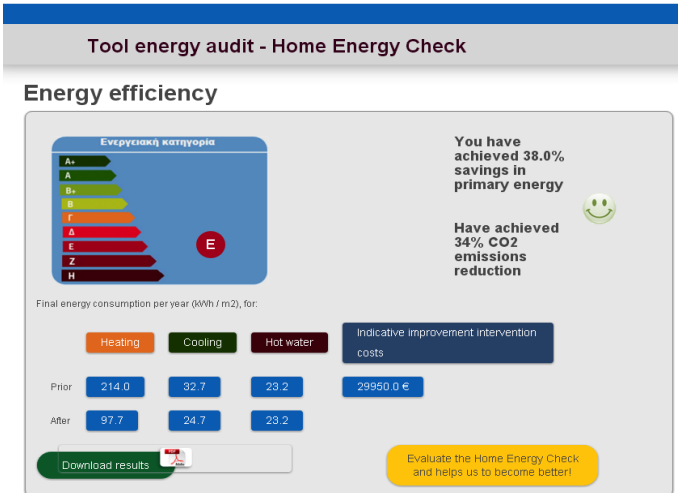
B) Online tool for to deep energy renovation recommendations

- Results:
  - Estimation of current energy efficiency
  - Selection of renovation options
  - Estimation of energy efficiency in case of renovation



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C) Creating Deep Renovation Network Platforms

- Deep Renovation Network Platform =
One-stop shop for building owners willing to renovate
plus Networking Platform for renovation supply-side actors and their joint communication/marketing
- Can take different forms
- Will help building owners take the steps needed for renovation after/based on the EPC

NOTE: A **One-Stop-Shop** should offer all the products and services that customers need. Depending on the initial situation in each sector and country, the product range for a complete solution can look very different.
In most cases, the task is to relieve the customer of research, design or bureaucratic processes.

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C) Creating Deep Renovation Network Platforms

Subtypes of the platforms could include:

I. an **online platform**, such as
   a) an online **information** platform (information only OSS)
   b) an online platform, including an OSS for information *and* implementation

II. a **local or regional physical hub** (a network of partners providing a hub for active marketing and connecting stakeholders, professional training, etc. and also a physical' OSS with energy advisors):
   a) OSS hub for information only
   b) OSS hub for information and coordination (guiding/coaching through implementation)
   c) OSS hub for information and implementation.

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- Basic version of the network platforms → Type I a)
- Extended versions can be all other types
- **Policy proposal:**
  combine national level Type I a) and support for network of local/regional types 2 b) or 2 c)

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C) Creating Deep Renovation Network Platforms

- Overview of the concept of a deep renovation network platform: services that may be included in an **extended version**:

8. Network (platform) for learning, exchange and cooperation (interregional/ transnational)
9. Capacity building and training
10. Step-by-step guidance for renovation project from start to end
11. Monitoring the implementation of the renovation project(s)
12. Operating a physical network hub and information centre
13. Carrying out renovation project(s)
14. Initiation and coordinating deep renovation demonstration project(s)
15. Aggregation of building renovation projects

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E) High user-friendliness of the EPC

- EPC forms in many countries implement EPBD requirements
- But is this what building owners, potential buyers/tenants need?
- Interviewed building owners/stakeholders and screened good practice
- Identified and analysed long list of potential improvements
- QualDeEPC objective: make it more useful
  - as first step to deep renovation
  - but also for building buying/rental market
- Developed enhanced general template for EPC form, as a **policy proposal**
- Will need adaptation to country situation/needs

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E) High user-friendliness of the EPC

long list of potential elements for the EPC form and **selection** after analysis

No.	Element	Implementation in enhanced EPC form temp.	Recommended for enhanced EPC form temp.	Not recommended on EPC temp.
1	Checkmark for nZEB standard			X
2	References for energy usage of typical building categories		X*	
3	Inclusion of past metered or modelled total energy consumption per yr	X		
4	Details on building envelope and building HVAC system	X		
5	Display of improved classifications and energy performance	X		
6	No. 5 + energy savings in kWh/year	X		
7	Detailed renovation recommendations by component + cost estimation	X	(X)	
8	Useful combination of renovations & stepwise implementation	X		
9	General information about EPC		X*	
10	Link to Deep Renovation Network Platform	X	(X)	
11	Glossary of most important terms		X*	
12	Link/ information on funding programs		(X*)	X

* May be included in Deep Renovation Network Platform
() A simplified version can be implemented.

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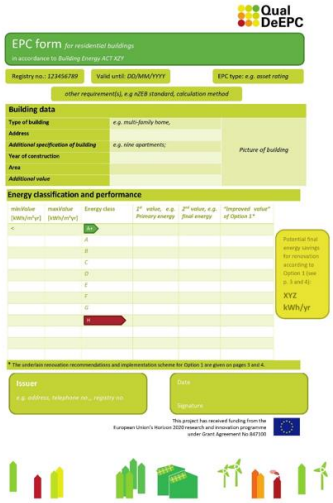
E) High user-friendliness of the EPC – proposed template


EPC form for residential buildings
in accordance to Building Energy ACT XZY
Registry no.: 123456789 | Valid until: DD/MM/YYYY | EPC type: e.g. asset rating
other requirement(s), e.g. nZEB standard, calculation method
Building data
Type of building | e.g. multi-family home,
Address
Additional specification of building | e.g. nine apartments;
Year of construction
Area
Additional value
Picture of building
Energy classification and performance
minValue [kWh/m²yr] | maxValue [kWh/m²yr] | Energy class | 1st value, e.g. Primary energy | 2nd value, e.g. final energy | "Improved value" of Option 1*
A
B
C
D
E
F
G
H
Potential final energy savings for renovation according to Option 1 (see p. 3 and 4): XYZ kWh/yr
* The underlain renovation recommendations and implementation scheme for Option 1 are given on pages 3 and 4.
Issuer
e.g. address, telephone no., registry no.
Date
Signature
This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 847100


EPC form for residential buildings
in accordance to Building Energy ACT XZY
Details on the current energy performance of the building
Energy consumption** measured: modelled:
No. | Period of measurement (from – to) | Energy source | Energy consumption for space-heating and domestic hot water (DHW) [kWh/yr] Total Heating DHW | Electricity [kWh/yr] | Other:
1
2
3
**measured energy consumption depends on the energetic profile of building occupant, the number of occupants and weather conditions during the period of measurement; modelled energy consumption may differ from actual use
Assessment of building envelope and technical system
Building envelope | Area [m²] | Description or Avg. U-value | Energy rating
Roof or ceiling to attic
External walls
Windows
Doors
Ground floor or floor to unheated basement
Technical systems | Year of construction/ installation | Energy source; provided power; EU energy label | Energy rating
Heating system
Domestic hot water
Ventilation system
Cooling system
Renewable energies
Lighting
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E) High user-friendliness of the EPC – proposed template


EPC form for residential buildings
in accordance to Building Energy ACT XZY
Renovation recommendations – component evaluation
Building envelope | Recommendation | "new" avg. U-value | New rating | Energy | Cost effective new (e.g. payback time) | Included in Option 1 ?
Roof or attic
External walls
Windows
Doors
Ground floor or floor to unheated basement
Technical systems | Recommendation | Energy source; provided power; EU energy label | New rating | Energy | Cost effective new (e.g. payback time) | Included in Option 1?
Heating system
Domestic hot water
Ventilation system
Cooling system
Renewable energies (outside of other systems)
Other: e.g. Lighting
Potential energy savings when Option 1 is implemented: XYZ kWh/yr
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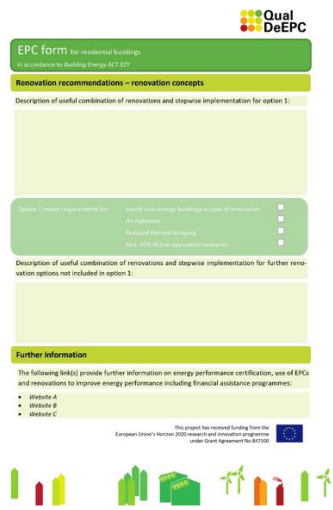
EPC form for residential buildings
in accordance to Building Energy ACT XZY
Renovation recommendations – renovation concepts
Description of useful combination of renovations and stepwise implementation for option 1:
Option 1 meets requirements for: nearly zero energy buildings in case of renovation; Air tightness; Reduced thermal bridging; Min. 50% RES or equivalent measures
Description of useful combination of renovations and stepwise implementation for further renovation options not included in option 1:
Further information
The following link(s) provide further information on energy performance certification, use of EPCs and renovations to improve energy performance including financial assistance programmes:
- Website A
- Website B
- Website C
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QUESTIONS?

Qual DeEPC

HIGH-QUALITY ENERGY PERFORMANCE ASSESSMENT
AND CERTIFICATION IN EUROPE
ACCELERATING DEEP ENERGY RENOVATION

Maike Venjakob

Wuppertal Institut

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www.linkedin.com/company/qualdeepc

Wuppertal Institut

Thank You.

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How to link EPC with building renovation passports and digital logbooks

Marta Maria Sesana
on behalf of EPC-RECAST

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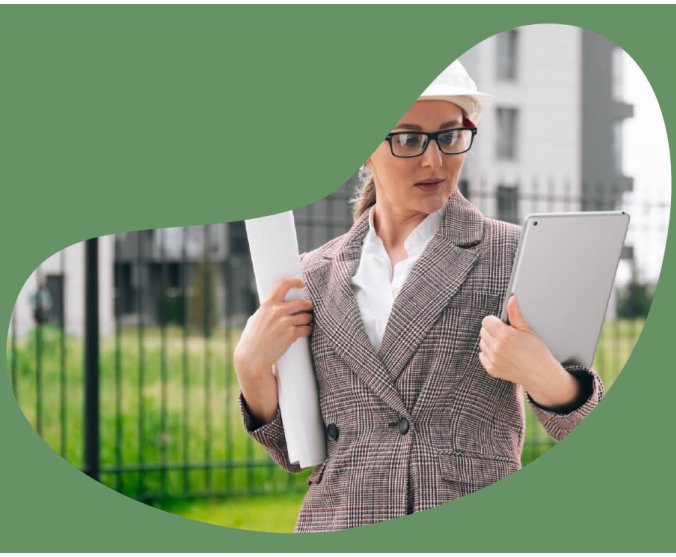
EPC RECAST
ENERGY PERFORMANCE CERTIFICATE RECAST



"How to link EPC with BRPs and digital logbooks?"

Marta M. Sesana (POLITECNICO DI MILANO - Partner of EPC RECAST project)

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EPC RECAST in a nutshell

- **Project overview and objectives**
- ***"How to link EPC with building renovation passports and digital logbooks?"***
- **EPC RECAST approach and reply besides the existing initiatives and projects lessons learned**

Content

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EPC RECAST

EPC RECAST in a nutshell

Innovative process and digital toolbox to develop and validate

a new generation of EPCs for residential buildings

- ✓ To facilitate and improve working practices of **EPC assessors** → **quality** and **reliability** of EPCs
- ✓ To tailor renovation recommendations, highlight benefits for **building owners** → **user-centric** approach
- ✓ To support **public authorities** on reliability of EPCs : → **Quality checks, verification** of EPCs

Data collection

Quality checks

Renovation roadmaps

Non-energy benefits

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11 partners in 7 countries

Research, higher educational | Energy provider, ESCOs | Professionals

CSTB le futur en construction

tecnalia Inspiring Business

Fraunhofer IBP

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY LIST

POLITECNICO MILANO 1863

EDF

ENGIE

ENBEE Environment & Building Energy Efficiency

R2M RESEARCH TO MARKET SOLUTION

bimeo

REHVA Federation of European Heating, Ventilation and Air Conditioning Associations

Over 150 pilot dwellings in 6 countries

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EPC RECAST

Main actions and outputs

- Automated data collection and enrichment for EP assessment: on-site scans / public database
- Quality procedures & consistency checks linked with ISO/CEN standards (M/480 mandate) : self-checking of input data using expert rules, expert values / data consistency using data crossing tests
- Use of measured energy consumption and deployment of smart meters : model calibration, verification / operational rating indicators

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EPC RECAST

Main actions and outputs

- Information sharing, common language and data interoperability: digital tools, logbooks, BRPs
- Co-design of the certificate with owners and assessors: indicators, non-energy benefits, renovation roadmap

→ *Implementation on 150 pilot dwellings*

by trained EPC assessors

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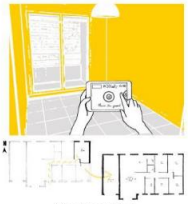
EPC RECAST

EPC RECAST process and toolbox

STEP 1: Data collection and inspection process

First contact with the owner

EPC RECAST toolbox application



On-site survey

EPC RECAST checklist

STEP 2: Energy performance assessment

Energy performance verification

STEP 3: EPC RECAST certification & renovation roadmap

Presentation of the EPC RECAST results

The tool box is to ensure:

1. Transparency and comparability
2. Model- calibration
3. Recovered reliability
4. User-centric recommendations

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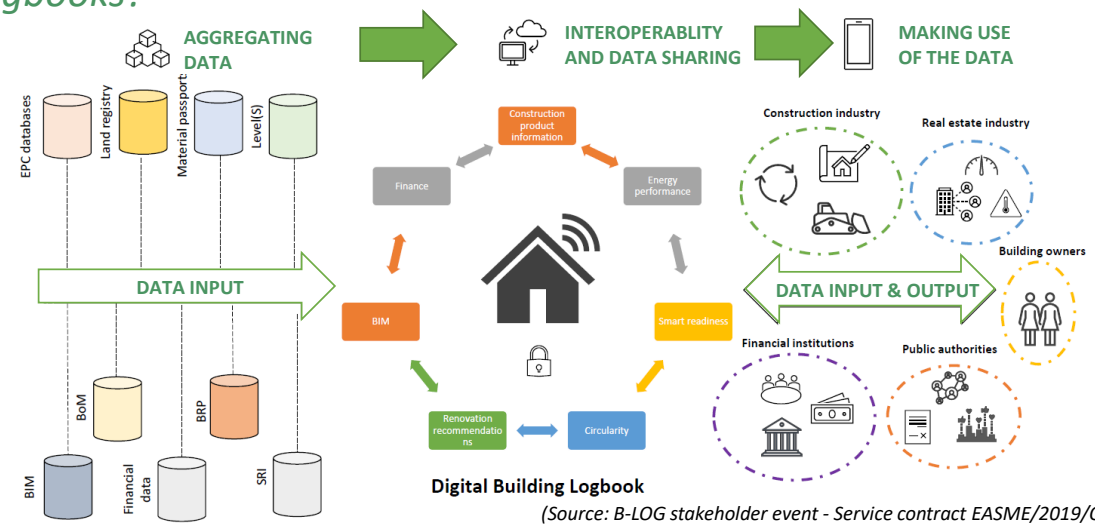
EPC RECAST

How to link EPC with building renovation passports and digital logbooks?



(Source: B-LOG stakeholder event - Service contract EASME/2019/OP/0007)

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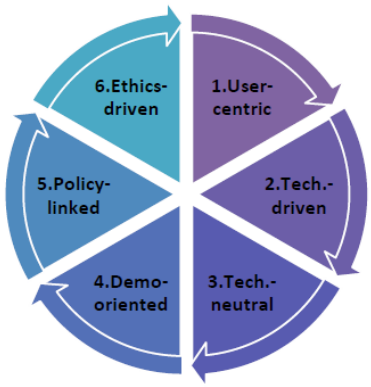
EPC RECAST

Key guiding principles underpointing the EPC RECAST toolbox

- **Transparency of the data** to be collected to characterize buildings and **quality check**
- **Compliance with international standards**
- **Comparability** in between building assets at European scale
- Recovered **reliability**, supporting building assessors all along the certification process with innovative methods and tools, and **cross-analysis of predicted performance vs. actual monitored** energy consumption
- **User-centric recommendations**, collecting building data and **structuring tangible pathways** to deep renovation through **a renovation roadmap**



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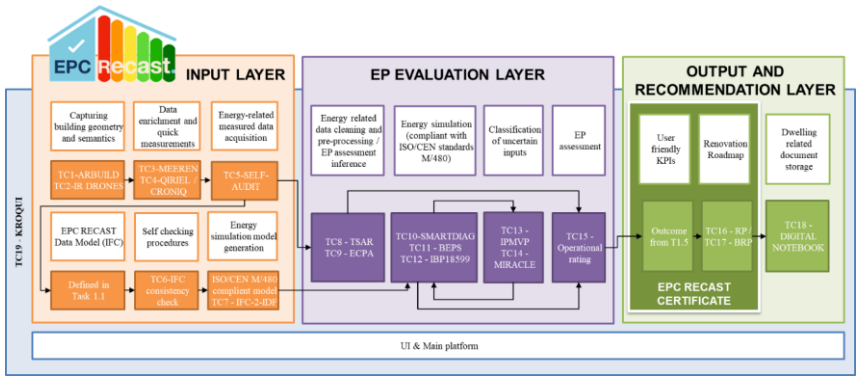
EPC RECAST

EPC RECAST Toolbox initial architecture



METHODOLOGY

- T1.1 – Link to ISO/CEN and data model
- T1.2 – Capturing the building geometry and semantics
- T1.3 – Enriching checklists and data collected onsite
- T1.4 Gap between predicted and measured EP
- T1.5 – Renovation roadmap
- T1.6 – EPC RECAST methodology

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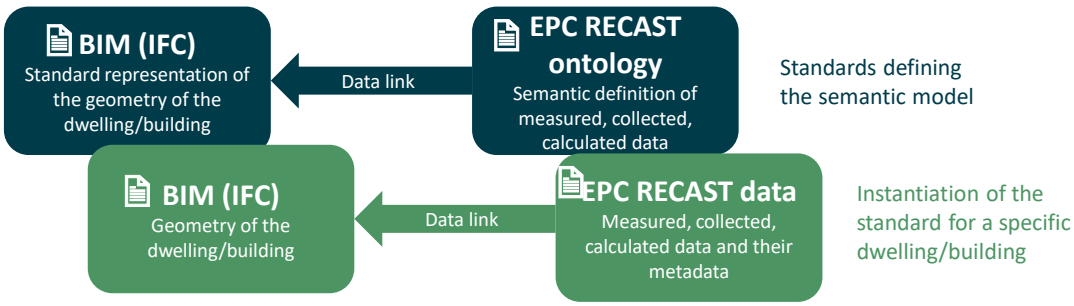
EPC RECAST

Common Data Environment (CDE) in EPC RECAST

- Digital implementation of the data model coupled with real time data



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EPC RECAST

Challenges and Key lessons learnt from ALDREN BRP

1. European compliance and harmonisation
2. Common language for harmonization
3. European challenges: "2050 ready"

- Developed in ALDREN for non-residential buildings: adapted to residential buildings and further improved in EPC RECAST

(Source: ALDREN H2020 project)

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EPC RECAST

EPC Renovation recommendations → Renovation Roadmap

→ **renovation roadmap backwards from NZEB level** = Class A of the EPC

→ in one or several steps, both options consistently presented to the owner to **avoid lock-in effect**

- it is therefore very important to properly define KPIs that should be easily appropriated by owners
- in EPC RECAST we work on these two aspects according a **user centric approach**

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EPC RECAST

Data Quality, Transparency and Checks

→ **standardized control report/certificate** as an annex to the EPC or a separate document

→ **self-checking algorithms and consistency tests** of EP assessment by EPC assessors to facilitate independent controls

→ to make recommendations more understandable and effective, they must be supported by quantitative and / or qualitative assessments of the benefits they can generate on the various aspects

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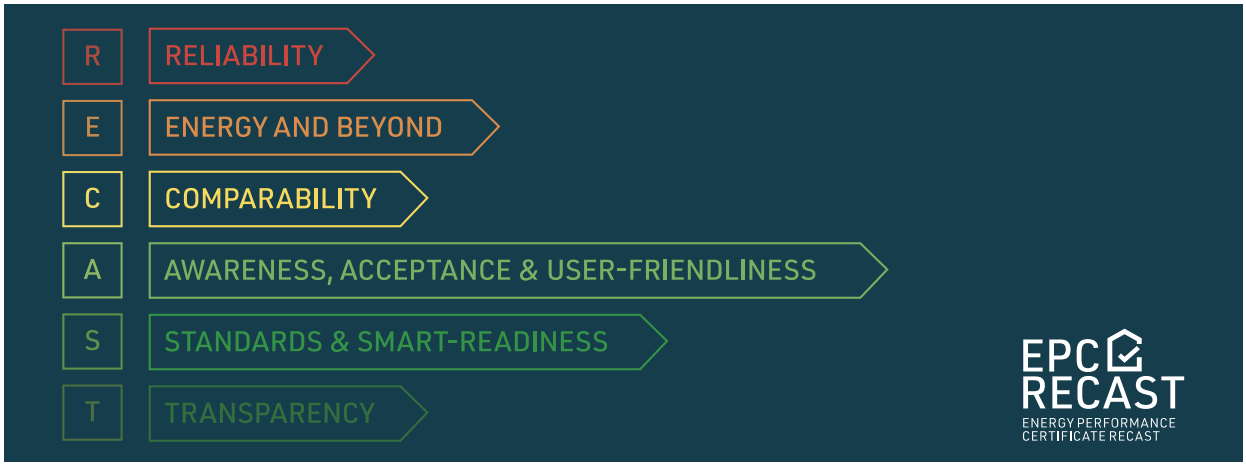
THANK YOU FOR YOUR ATTENTION!

epcrecast.wordpress.com @EpcRecast **See you online!** EPC-RECAST @epcrecast



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Short Q&A Session

Guillaume Joly
The European Consumer Organisation (BEUC)

Maike Venjakob
on behalf of QualDeEPC

Marta Maria Sesana
on behalf of EPC-RECAST

Moderator:
Adrian Joyce
EuroACE Secretary General

EuroACE Energy Efficient Buildings

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Creating an EU framework for Building Renovation Passports: what are the needed elements?

Marion Jammet
Irish Green Building Council

EuroACE
Energy Efficient Buildings

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EPBD 2018 – Art. 19a

"An optional building renovation passport that is complementary to the energy performance certificates, in order **to provide a long-term, step-by-step renovation roadmap for a specific building** based on quality criteria, following an energy audit, and outlining relevant measures and renovations that could improve the energy performance"

Building Renovation Passport - Definition

IGBC
IRISH GREEN BUILDING COUNCIL

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- About the Irish BRP Pilot
- Key recommendations

Building Renovation Passports

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IRISH GREEN BUILDING COUNCIL

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"Introduce a simple holistic energy assessment and /or building passports which would include a masterplan for retrofit and a record of works, thus allowing for a step-by-step approach to deep renovation"

Towards large scale deep energy renovation – Unlocking Ireland's potential

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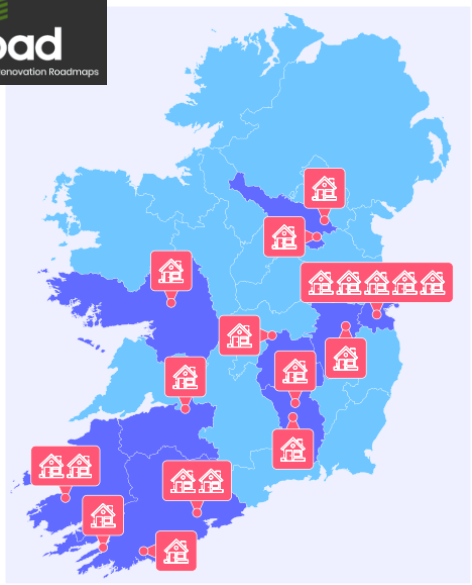
iBRoad
Individual Building Renovation Roadmaps



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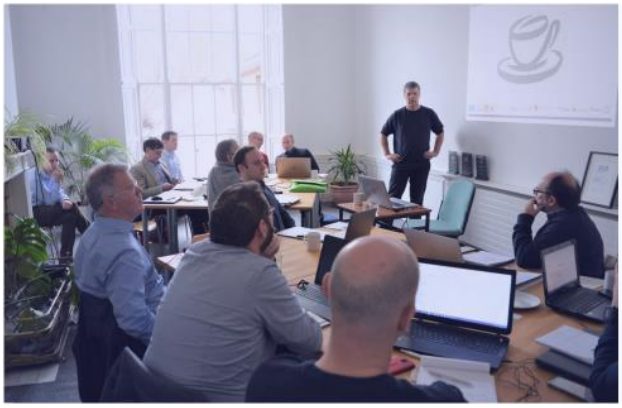

10 Auditors Selected

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The Roadmap enables and motivates the building owner to realise concrete renovation measures in the near future.

78% of the **Auditors** taking part in the Irish pilot rather or completely agree with this statement.

89% of the **Homeowners** taking part in the Irish pilot rather or completely agree with this statement.

> "I was very satisfied with the report. I would say that my perception of energy audits before now was negative. I felt that the ratings used to classify buildings were too abstract. This project has been excellent. I'm aiming to complete various stages of a long term project that will incrementally improve my quality of living. This system is much more motivating and relatable." - **Homeowner, July 2020**

A tool to drive energy renovation

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"Building Renovation Passports could provide invaluable information to SEAI, but also to energy auditors and new homeowners, who often have very little information on the work that has been completed. For SEAI, it could be a way to gather and interpret very large amount of data to improve policies. For energy auditors, any documentation of previous interventions, no matter how incomplete, is extremely helpful to develop a renovation plan."

– **Energy auditor, August 2020**

> "The iBRoad is ideal for Technical Assessors and BER Assessors when it comes to Energy Upgrades, Grant Applications and associated works involved and in particular upgrades with a view to the Heat Pump Grant Process". - **Auditor, August 2020**

A tool to drive energy renovation

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SEAI: Sustainable Energy Authority of Ireland

BER: Building Energy Rating – Irish EPC

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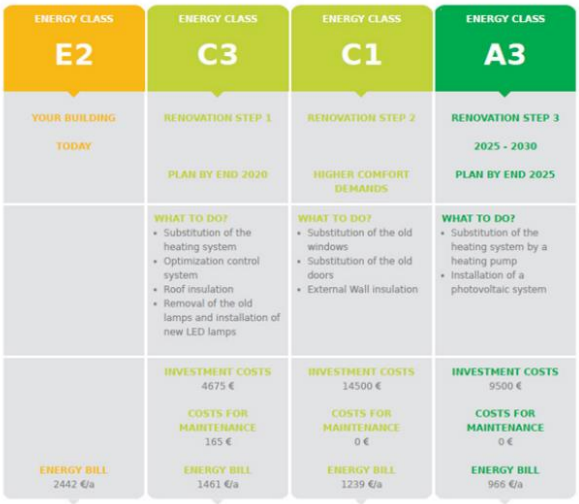

"The BRPs should **build upon the success of the BER in Ireland** and **complement it**. To **avoid duplication of work and to reduce cost**, the roadmap, the logbook and DEAP file should be fully integrated".

Cost:

- €700 vs. a small fee
- Supporting measures?

Building Renovation Passports & EPCs

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BER: Building Energy Rating – Irish EPC

DEAP: Software used in Ireland to develop EPCs

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> I've had a few friends and family looking for this kind of information. It would be very useful to have this kind of service integrated with the SEAI technical advisor report". - **Homeowner, July 2020**

> The iBRoad is ideal for Technical Assessors and BER Assessors when it comes to Energy Upgrades, Grant Applications and associated works involved and in particular upgrades with a view to the Heat Pump Grant Process". - **Auditor, August 2020**

> The logical place to integrate BRPs is in DEAP 4". - **Auditor, August 2020**

Building Renovation Passports & EPCs

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IRISH GREEN BUILDING COUNCIL

BER: Building Energy Rating – Irish EPC **SEAI:** Sustainable Energy Authority of Ireland

DEAP: Software used in Ireland to develop EPCs

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IGBC
IRISH GREEN BUILDING COUNCIL

Thank you for your attention

Introducing Building Renovation Passport in Ireland – Feasibility Study

Marion Jammet

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www.igbc.ie

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Creating an EU framework for Digital Building Logbooks: what are the needed elements?

Sophie Dourlens-Quaranta
R2M Solution

EuroACE
Energy Efficient Buildings

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RESEARCH TO MARKET SOLUTION

Creating an EU framework for Digital Building Logbooks: what are the needed elements?

Sophie Dourlens-Quaranta
EuroACE webinar, 27 May 2021

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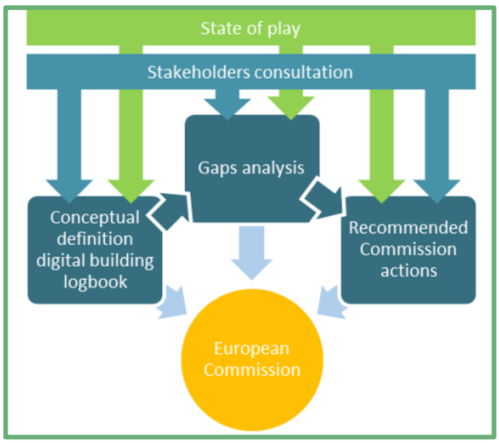
R2M Solution

The B-LOG study

Service contract EASME/2019/OP/0007
Study on the development of an EU framework for buildings' digital logbook

Partners:

Our publications:



R2M Solution

Definition of a digital building logbook

What is a DBL? Who is it for?
A digital building logbook is a **common repository for all relevant building data**. It facilitates **transparency**, **trust**, **informed decision making** and **information sharing** within the construction sector, among building owners and occupants, financial institutions and public authorities.

What does it do?
A digital building logbook is a **dynamic tool** that allows a variety of **data**, **information** and **documents** to be **recorded**, **accessed**, **enriched** and **organised** under specific categories.

What is the scope?
It represents a **record of major events and changes** over a **building's lifecycle**, such as change of ownership, tenure or use, maintenance, refurbishment and other interventions. As such, it can include administrative documents, plans, description of the land, the building and its surrounding, technical systems, traceability and characteristics of construction materials, performance data such as operational energy use, indoor environmental quality, smart building potential and lifecycle emissions, as well as links to building ratings and certificates. As a result, it also enables circularity in the built environment.

How can the data be stored and managed?
Some types of data stored in the logbook have a more **static** nature while others, such as data coming from smart meters and intelligent devices, are **dynamic** and need to be **automatically and regularly updated**. A digital building logbook is a **safe instrument** giving control to users of their data and the access of third-parties, respecting the fundamental right to protection of personal data. Data may be stored within the logbook and/or hosted in a different location to which the logbook acts as a gateway.

R2M Solution

EU framework for Digital Building Logbooks

R 2 M S o l u t i o n

Review of existing building logbook initiatives

- Woningpas
- Dossier d'intervention ultérieure
- *Madaster*
- Opleverdossier
- Platform CB'23

- Homebook
- Le carnet numérique du logement
- Passeport Efficacité Énergétique
- Mon carnet logement
- Wikihabitat

- Eigenheim Manager
- Hausakte
- Gëbaudepass
- QDF Hausakte
- ImmoPass

- Fascicolo del Fabbricato
- Livro de obra
- Libro del Edificio
- PAS-E
- Electronic building ID

- Bedrebolig
- Ilmastoviisaat Taloyhtiöt
- Building Passport GBC
- Real estate service manual
- Klimatdeklaration
- BASTA Loggbok
- Produktkollen
- Min Villa

- Federal Register

- IBroad
- ALDREN
- BAMB
- BIM4EEB
- DigiPLACE
- X-tendo

- CIBSE TM31
- Home Information Pack
- Home report

- Arc platform

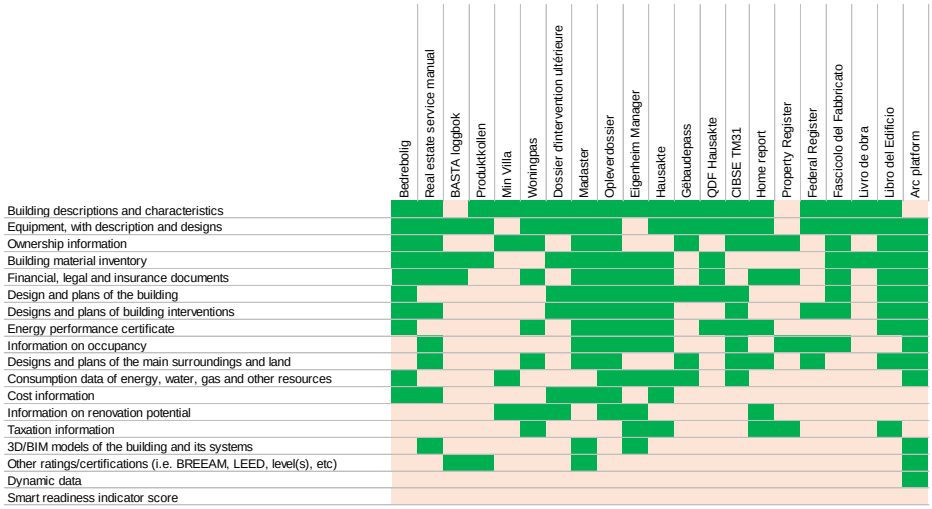
- Property Register

R2M Solution

EU framework for Digital Building Logbooks

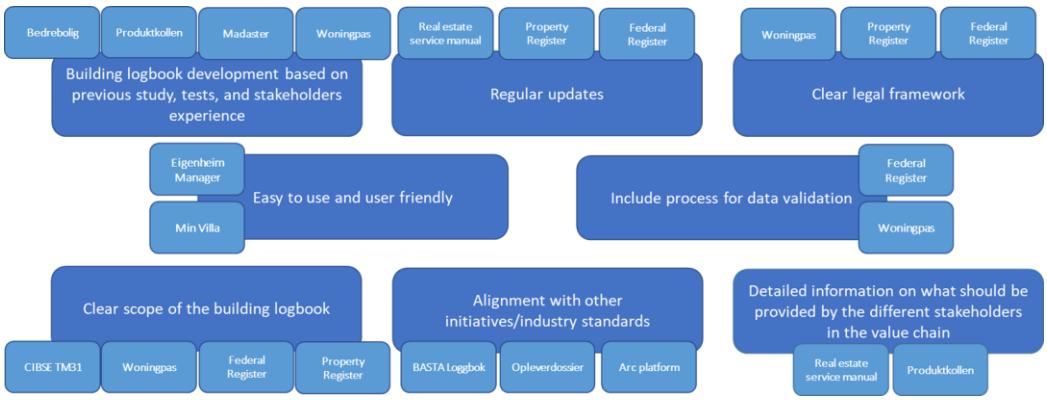
R 2 M S o l u t i o n

Data fields included in logbooks in place



R 2 M S o l u t i o n

Success factors for building logbooks



R 2 M S o l u t i o n

Barriers to implementation of building logbooks

Cost implications
Costs for implementation, update and validation

Static nature of the building logbooks
Information often need to be manually updated and the building logbook does not include dynamic information on the day-to-day use

Privacy and data management
Not clear data ownership and data handling procedures, including data validation

Access to information
Information accessible only on site and/or to specific stakeholders

Administrative burden
No clear understanding of the use and added value of the building logbook

Fragmented regional approach
In particular in Italy and Spain where regions develop their own requirements for building logbooks

R 2 M S o l u t i o n

Key gaps to be addressed

Financial aspects **User expectations** **Data aspects** **Legal aspects**

- **Gap #1** Lack of a sound funding model
- **Gap #2** DBL benefits not clear to all the stakeholders
- **Gap #3** Inconsistency around the scope and purpose of DBL
- **Gap #4** User-friendliness not optimised
- **Gap #5** Barriers to updating the DBL
- **Gap #6** Challenges linked with the interoperability of the repository
- **Gap #7** Issues with data governance
- **Gap #8** Lack of defined legal framework
- **Gap #9** Uncertainty around the role of EU and MS level policy

R 2 M S o l u t i o n

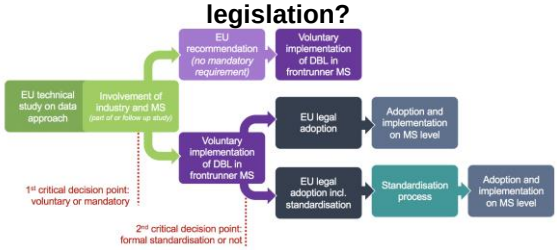
Recommended Commission actions

Priority action 1: Development of a standardised approach for data collection, data management and interoperability including its legal framework

To what level is it necessary to formalize and align these technical specifications across Europe?

*Main purpose of a standardisation process: to establish **a semantic data model** of the core DBL elements*

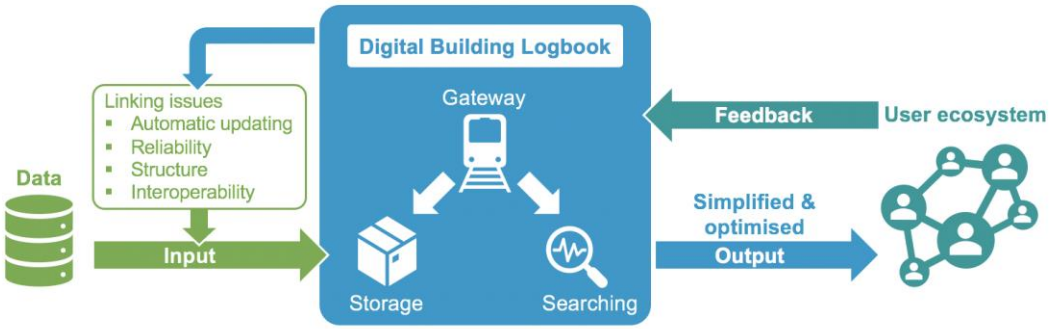
How can the approach be anchored in European legislation?



R 2 M S o l u t i o n

Recommended Commission actions

Priority action 2: Development of guidelines for linking existing databases



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Recommended Commission actions

Priority action 3: Launch of publicly funded R&I projects to further explore the digital building logbook concept and its implementation

Suggestion of scope

- *Data governance: process, organisation and standards implemented to ensure the effective and efficient storage of and access to the information*
- *Life cycle thinking and circularity*
- *Framework for linking large number of existing building information related databases*
- *Improve usability of digital building logbooks through user experience*
- *Engagement of industry*
- *User advantages and business opportunities of the DBL need to be clear*

Objectives: Demonstrate benefits

- *Resource efficiency*
- *Decarbonisation*
- *Safety and health*
- *Cost effectiveness*
- *Efficiency gains in terms of time*
- *Digitalisation of the construction value chain…*

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Thanks!

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Q&A Session

Marion Jammet
Irish Green Building Council

Moderator:
Adrian Joyce
EuroACE Secretary General

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The European Consumer Organisation (BEUC)

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on behalf of QualDeEPC

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on behalf of EPC-RECAST

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Conclusions

Adrian Joyce
EuroACE Secretary General

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Thank you!

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