

The evolution of the EU legislative framework: the introduction of the Building Renovation Passport

Susanne Geissler

*SERA Institute for Sustainable Energy and
Resources Availability, Vienna/Austria*



Politecnico
di Torino



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101033819

We need a higher renovation rate

Basically, there are two main possibilities to achieve a **deep renovation**, not only from the technical point of view, but also in terms of economic feasibility:

- In a **short time carried out at once**, for instance with prefabricated elements improving the energy efficiency of the building envelope, including the implementation of renewable energy systems;
- During a longer period of time, based on **the step-wise implementation of renovation measures in the correct sequence**, following a renovation plan, which is also called 'renovation roadmap', and uses the so-called 'logbook' to store building data and record the interventions during time.

Deep renovation at once

Prefabricated façade elements including renewable energy systems

- For example, business model <https://energiesprong.org/>
- For example, innovative housing association Austria



Pictures: S. Geissler

Deep renovation at once



- Multi-unit residential building Wohnhausanlage Johann-Böhm-Straße 34/36 in Kapfenberg
- Housing Association: Siedlungsgenossenschaft Ennstal
- Developed and implemented as part of a research project
- Completed 2014

<https://nachhaltigwirtschaften.at/de/hdz/news/2014/20140811-feierliche-uebergabe-der-plus-energie-sanierung-in-kapfenberg.php>

Support step-wise renovation with the BRP

- **EPBD amended 2018:** feasibility study on the Building Renovation passport (BRP) according to EPBD Article 19a, so-called policy packages were developed, representing different options how to introduce a BRP; based on what is already happening in Member States, e.g. the German individueller Sanierungsfahrplan
- **EPBD recast proposal 15.12.2021:** with articles on the BRP; should be adopted (with changes) by end of 2022/2023
- Direction is clear: zero emission building stock by 2050
- Mandatory database and provisions for data exchange
- Purpose and content of building renovation passport and link with national building renovation plan



<https://www.co2online.de/foerdermittel/individueller-sanierungsfahrplan/#c171241>

From status quo to target

Investment cost, maintenance & repair,
subsidy/grant for each step

Article 10 Renovation passport- Proposal for EPBD recast

Specifications
for the BRP

1. **By 31 December 2023**, the Commission shall adopt delegated acts in accordance with Article 29 supplementing this Directive by establishing **a common European framework for renovation passports**, based on the criteria set out in paragraph 2.
2. By 31 December 2024, **Member States shall introduce a scheme of renovation passports based on the common framework** established in accordance with paragraph 1.
3. The renovation passport **shall comply with the following requirements:**
 - (a) it shall be issued by a **qualified and certified expert, following an on-site visit;**
 - (b) it shall comprise a renovation roadmap indicating a sequence of renovation steps building upon each other, **with the objective to transform the building into a zero-emission building by 2050 at the latest;**
 - (c) it shall indicate the **expected benefits** in terms of energy savings, savings on energy bills and operational greenhouse emission reductions as well as wider benefits related to health and comfort and the improved adaptive capacity of the building to climate change; and
 - (d) it shall contain **information about potential financial and technical support**

Article 19 Databases for energy performance of buildings – Proposal for EPBD recast

This is more than
the EPC database

1. Each Member State shall set up a national database for energy performance of buildings which allows data to be gathered on the energy performance of the buildings and on the overall energy performance of the national building stock.

The database shall allow data to be gathered related to energy performance certificates, inspections, the building renovation passport, the smart readiness indicator and the calculated or metered energy consumption of the buildings covered.

2. **The database shall be publicly accessible**, in compliance with Union and national data protection rules. Member States shall ensure access to the full energy performance certificate for building owners, tenants and managers, and to financial institutions as regards the buildings in their investment portfolio. For buildings offered for rent or sale, Member States shall ensure access to the full energy performance certificate for prospective tenants or buyers.

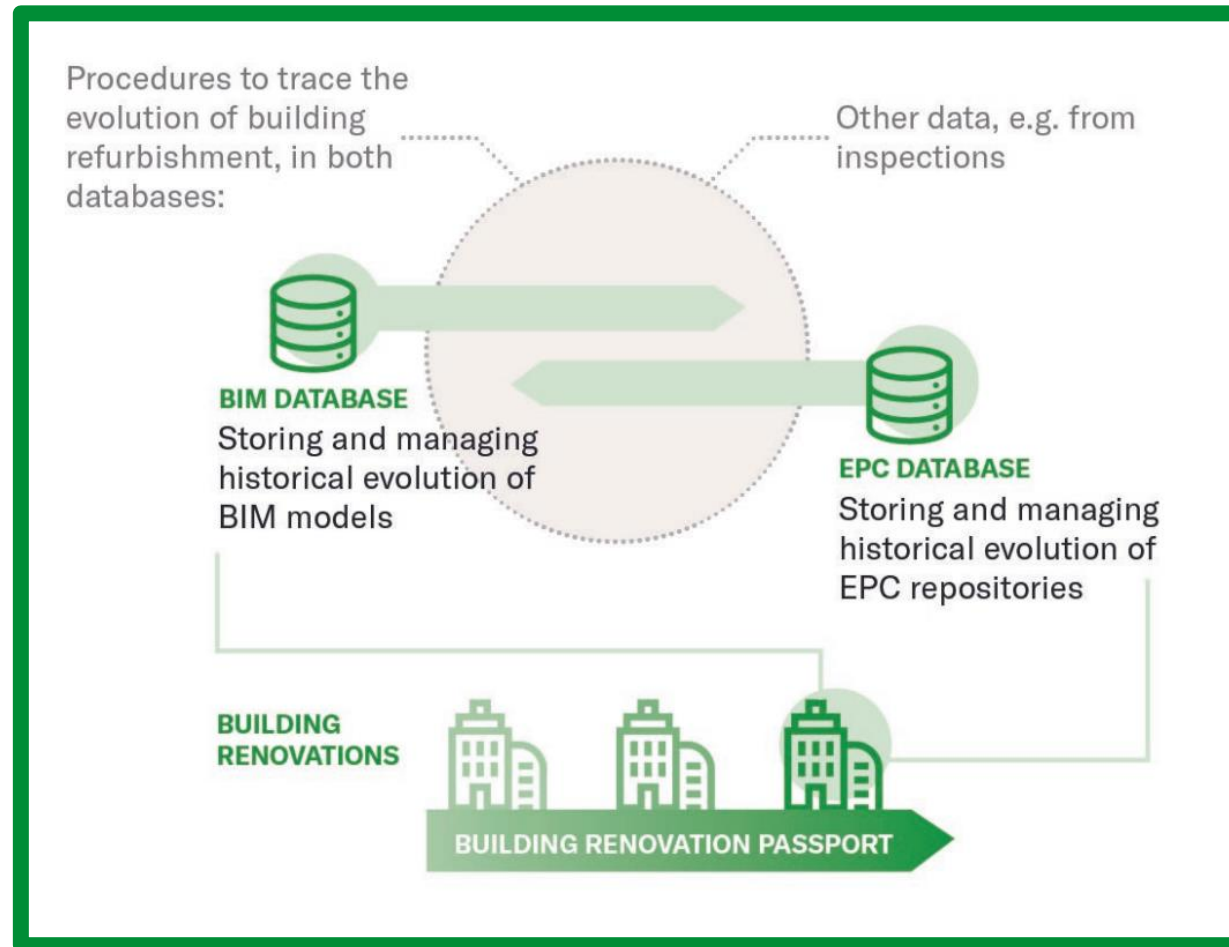
...

6. **For the purpose of ensuring coherence and consistency of information, Member States shall ensure that the national database for energy performance of buildings is interoperable and integrated with other administrative databases containing information on buildings, such as the national building cadastre and digital building logbooks.**

Developing the knowledge base for the BRP - TIMEPAC and ...

EU project	type	duration	Relevance for TIMEPAC
ALDREN https://cordis.europa.eu/project/id/754159/de	CSA	1.11.2017-30.9.2020	Building Renovation Passport (BRP) for non-residential buildings (especially offices and hotels) as a complementary tool to the Energy Performance Certificate (EPC)
iBRoad https://cordis.europa.eu/project/id/754045/de	CSA	1.6.2017-31.12.2020	The iBRoad tool consist of two components: the Roadmap Assistant and the Logbook, both of which are implemented as web applications.
QualDeEPC https://cordis.europa.eu/project/id/847100/de	CSA	1.9.2019-31.8.2022	Building Renovation Passport as a result of an energy audit
x-tendo https://cordis.europa.eu/project/id/845958	CSA	1.9.2019-31.8.2022	X-tendo toolbox with 10 innovative EPC features ranging from a smartness and a comfort indicator to building logbooks and how to improve EPC databases.
ePANACEA https://cordis.europa.eu/project/id/892421	IA	1.6.2020-31.5.2023	Smart Energy Performance Assessment Platform that will use dynamic and automated simulation modelling, big data analysis, machine learning and inverse modelling. Some reference to Building Renovation Passport.
D^2EPC https://cordis.europa.eu/project/id/892984/de	IA	1.9.2020-31.8.2023	Roadmapping Tool for EPC Upgrade: the roadmapping tool will feed the relevant building renovation passports.
iBRoad2EPC https://cordis.europa.eu/project/id/101033781/de	CSA	1.9.2021-31.8.2024	Building Renovation Passports support deep renovation through comprehensive assessment and identification of effective measures.

The Building Renovation Passport in TIMEPAC



Phasing out worst performing buildings



Zero emission

Building logbook and EPC as the basis for the BRP

How to make sure that only effective EE and RE measures will be planned - reliability of data and calculations

How to make sure that only actually implemented measures are recorded - comparison of plan and implementation

Which indicators are crucial for occupants, owners, and financing organisations

	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050
Maintenance & repair plan												
Roof										x		
Outer walls			x									
Windows			x									
Heating system				x								
etc.												
Other improvement measures												
Addition of balconies			x									
Floor plan modification												
etc.												
Other FM measures												
BACS												
etc.												
Impact on other aspects												
Safety										x		
Fire safety			x									
etc.												
Energy related measures												
Implementation of measure 1			x									
Implementation of measure 2			x									
Implementation of measure 3				x								
Implementation of measure 4											x	
Implementation of measure 5												
etc.												

Enhanced EPC indicators updated with implemented measure



Update of national building renovation plan

Thanks for your attention!

If you would like more information, please visit
www.timepac.eu

or contact us at leandro.madrado@salle.url.edu