

BUILDING LOGBOOK – WONINGPAS: EXPLOITING EFFICIENCY POTENTIALS IN BUILDINGS THROUGH A DIGITAL BUILDING FILE

Country/region	Flanders, Belgium
Type of E1st approach	C – Behind / General 3 – Requiring E1st-proof assessments
Energy carrier(s) targeted	Electricity / natural gas / district heating / others – any which are connected to the building
Sector(s) / energy system(s) or end-uses targeted	Residential Heating, lighting, electricity services
Implementing bodies	Flemish Energy Agency (VEA)
Decision makers involved	Vlaams Energieagentschap/Flemish Energy Agency (VEW) and OVAM (Public Waste Agency of Flanders)
Main objective(s)	Increasing the renovation rate, increasing knowledge through collection of information on a specific building's renovation history and future, reducing the energy demand in buildings
Implementation period	Ongoing since 2018

A digital building logbook is a new concept that has gained some attention in the EU¹ and in several Member States, such as Belgium. A digital building logbook is typically described as a digital repository where all the information related to the building (including ownership, building design, materials used, structures, installations, systems, adaptations, investment, operational and maintenance costs, health and safety, performance indicators, certifications) are compiled and updated when changes occur. Compiling and streamlining the use of data and making it accessible to the public in an anonymised way could influence the effectiveness of policies, simplify administrative procedures and contribute to a stronger link between the building's energy performance and its value.

The most advanced building logbook in the EU as of early 2020 is the Dutch Woningpas, which is a building-specific datafile. The data can be accessed by the building owner and by individuals who have been granted access by him. The Dutch logbook features energy performance, renovation advice, the housing quality (such as stability, humidity, safety) and data on the environment. The Woningpas makes it possible to track the

¹ The European Commission commissioned a study in 2020 on digital building logbooks delegated by Executive Agency for Small- and Medium-sized Enterprises (EASME). Results from this could feed into the upcoming renovation wave initiative of the EU.



evolution of each individual building. The first version of the instrument was launched in 2018 ([iBRoad project, 2018a](#)).

1. Background

The Flemish Energy Agency (VEA), through a participatory process with a wide network of Flemish stakeholders adopted and implemented the Renovation Pact (2014-2018), designed to lead to a thorough improvement of the energy performance of the region's building stock. It established that the existing building stock in 2050 should become as energy efficient as the current minimum requirements for new buildings (E60).

Two of the main measures of the Renovation Pact were the support of the Woningpas (the building logbook) and the EPC+ (a more user-friendly version of Energy Performance Certificate EPC), including a clear overview of measures, ordered by priority. The two instruments are to provide building owners with useful, easy-to-understand information and long-term guidance. Through these instruments, the public authorities in Flanders also intend to contribute to the region's long-term objectives.

2. How has the E1st principle (or similar concept) been implemented?

By giving a detailed overview of the current energy performance level and a registry of the efficiency measures undertaken so far, combined with a roadmap for improving energy performance, the Efficiency First principle is applied. In line with the Dutch long-term strategy, the building logbook puts efficiency measures before renewable energy measures. It lists the measures that are necessary to reduce the overall energy demand before increasing the energy supply capacity, for example when installing a heat pump, to make sure that it is not over dimensioned. The building logbook also gives information on the cost of different measures, thereby helping the owner to take costs alongside other factors into account.

3. Effects / impacts

As this is a fairly new tool, it is not possible to observe any effects/impacts yet. So far, the Woningpas has not been taken up in a large enough scale to show results.

4. Changes over time, if any

The building logbook is a novel instrument, introduced in Flanders in 2018; therefore, the related legislation has not been changed yet. The Woningpas is closely linked to the EPC, which includes some elements of the Woningpas. Since January 2019, EPCs in Flanders list recommendations for refurbishment in line with the regional long-term decarbonisation objective. Furthermore, the logbook includes recommendations for further actions to be improved during a whole-building renovation (airtightness, ventilation etc.) and technical

information to avoid lock-in effects. In the future, other building aspects such as durability, water, installations and building permits will be included.

5. Barriers and success factors

Logbooks have been recognised – and developed in some countries — as a way to inform and engage building owners and possibly even decision-makers and maximise the value of EPC data for them during their renovation process.

Building logbooks can help to not only trigger renovation but can also help in a step-by-step approach which leads to deeper renovations overall if the information is clear and precise and there is available data which underpins the suggested approach. Combined with other measures, like minimum energy performance requirements and trigger points to prioritise the renovation of the worst-performing buildings, the impact can be even greater. This, in turn, can lead to an indirect implementation of the Energy Efficiency First principle. The main concept behind this is that renovation measures are more cost-effective on an individual scale as well as on a macroeconomic level than, for example, covering all energy needs through renewable energies. The latter would involve too many resources for decentralised energy production (or unsustainable import of renewable energy) and therefore is not the most cost-effective and efficient solution. In order to look at the effects more in detail and give a sound assessment the concept needs to be implemented for a longer time period and closely monitored.

The key barrier or success factor for E1st will be if the Woningpas or other building logbooks ensure that renovation recommendations are implemented before the switch to renewable systems, and how this will happen. The success factor of the building logbook could be identified as giving the homeowners the full information on their buildings and how to improve them putting Efficiency First.

6. Replicability and scalability potential

There are other examples of the building renovation passport in Germany (“individueller Sanierungsfahrplan”) and France (“EFFICeat) but Flanders with its Woningpass is so far the front runner, as this concept is much more elaborate and involves more information than the others. The European Commission has conducted a feasibility study on implementing building logbooks across Europe and it is expected that more countries will follow the Dutch example in the future if it proves to be useful for increasing the renovation rate and depth — especially if EU legislation proposes its further implementation and formally introduces it as a tool.

Flanders (Belgium), Portugal and regional administrative entities (departments) in France have developed digital registries which could be described as building logbooks, though less detailed than the Flemish Woningpas. Denmark and Ireland have very advanced EPC registries, with innovative aspects that mirror a digital building logbook.

7. Sources and references

Web sources:

<http://www.energiesparen.be/woningpas> (Dutch)

<http://www.passeport-efficacite-energetique.fr/> (French)

References:

iBRoad project (2018a). [Understanding potential user needs – A survey analysis of the markets for Individual Building Renovation Roadmaps in Bulgaria, Poland and Portugal](#). March 2018.

iBRoad project (2018b). [The Concept of the Individual Building Renovation Roadmap -An in-depth case study of four frontrunner projects](#). January 2018.

ABOUT ENEFIRST

ENEFIRST is a 3-year project funded under the Horizon2020 programme, which gathers a consortium of partners from across sectors and regions: [IEECP](#), [BPIE](#), [Fraunhofer ISI](#), [CEU](#), [RAP](#), [IREES](#), [TU Wien](#).

From definition to implementation, ENEFIRST aims at making the “Efficiency First” (E1st) principle more concrete and operational, better understand its relevance for decision processes related to energy demand and supply, its broader impacts across sectors and markets, focusing on the building sector and related energy systems in EU Member States.

E1st gives priority to demand-side resources whenever they are more cost-effective from a societal perspective than investments in energy infrastructure in meeting policy objectives. It is a decision principle that is applied systematically at any level to energy-related investment planning and enabled by an “equal opportunity” policy design.

ENEFIRST combines policy analysis and quantitative assessments of E1st impacts to develop policy guidelines and recommendations, following a process with continuous exchanges with stakeholders.

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