

Session 6

Making use of renovation roadmaps: from the building to the building stock exploiting the renovation passport data

Presenter: Susanne Geissler (SERA)

20 March 2024



Politecnico
di Torino



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT,
CLIMATE AND ENERGY

laSalle

RAMON LLULL UNIVERSITY

SERA

Institute for
Sustainable Energy and
Resources Availability

Overview of presentation

- The link between national building renovation plan and renovation passport
- Potential of the renovation passport to improve data on existing buildings and renovation measures
- Why is this important? It's not just about energy planning, but also about reporting on target achievement

Transformation of the building stock and existing buildings

National Building Renovation Plan (NBRP) (Article 3)

- ... a roadmap with nationally established targets and measurable progress indicators to ensure a **highly energy efficient and decarbonised national building stock** and the **transformation of existing buildings into zero-emission buildings by 2050**
- Annex II Template for the National Building Renovation Plans

Renovation Passport (Article 12)

- ‘renovation passport’ means a tailored roadmap for the deep renovation of a specific building in a maximum number of steps that will significantly improve its energy performance;
- ‘deep renovation’ means a renovation which is in line with the ‘energy efficiency first’ principle, which focuses on essential building elements and which transforms a building or building unit:
 - (a) before 1 January 2030, into a nearly zero-energy building;
 - (b) from 1 January 2030, into a zero-emission building;

Reference: https://www.europarl.europa.eu/doceo/document/TA-9-2024-0129_EN.html (12 March 2024)

Possible links between the national building renovation plan and the renovation passport

Content of NBRP according to Annex II

- (a) Overview of the national building stock
- (b) Roadmap for 2030, 2040, 2050
- (c) Overview of implemented and planned policies and measures (PaMs)
- (d) Outline of the investment needs, the budgetary sources and the administrative resources

Possible link with renovation passport

Annual renovation rates: number and total floor area (m²), per building type, to nearly zero-energy and/or to zero-emission building levels, per renovation depth (weighted average renovation), public buildings

Targets, e.g. for annual renovation rates; targets for expected greenhouse gas emission reduction (%)

PaMs possibly under the umbrella of a renovation passport scheme: the promotion of deep renovation of buildings, including staged deep renovation; the creation of one-stop-shops or similar mechanisms for the provision of technical, administrative and financial advice and assistance, and other PaMs

Total **investment needs** for 2030, 2040, 2050 (million EUR); public investment; private investment

Potential of the renovation passport to improve data on existing buildings and renovation measures

EPC and Renovation Passport: Recommendations

(example: transposition of amending Directive (EU) 2018/844 in Austria)

EPC Label

EPC Technical Annex
(type of data and calculation method)

EPC Technical Annex
(Recommendations)



If single measures: a renovation concept must be present to avoid lock-in effects regarding minimum requirements of major renovation



Can be replaced by the Building Renovation Passport (BRP) if step-wise measures reach the minimum requirements of a major renovation. BRP becomes supplement to the EPC Technical Annex. (OIB RL 6 2019)

Renovierungsausweis für Nicht-Wohngebäude
Logo

Renovierungsausweis für Wohngebäude
Logo
en

Anforderungsblock bei Wohngebäuden

WÄRME- UND ENERGIEBEDARF (Referenzklima)		Ergebnisse		Nachweis über #####		Anforderungen	
Referenz-Heizwärmebedarf	HWB _{Ref, RK} = ###, # kWh/m²a	entspricht		HWB _{Ref, RK, zul} = ###, # kWh/m²a	entspricht	entspricht	Nachweis über ##### Anforderungen HWB _{Ref, RK, zul} = ###, # kWh/m²a
Heizwärmebedarf	HWB _{RK} = ###, # kWh/m²a	entspricht			entspricht	entspricht	KB [*] _{RK, zul} = ###, # kWh/m²a
Endenergiebedarf	EEB _{RK} = ###, # kWh/m²a	entspricht		EEB _{RK, zul} = ###, # kWh/m²a	entspricht	entspricht	EEB _{RK, zul} = ###, # kWh/m²a
Gesamtenergieeffizienz-Faktor	f _{GEE, RK} = #, ##	entspricht		f _{GEE, RK, zul} = #, ##	entspricht	entspricht	f _{GEE, RK, zul} = #, ##
Erneuerbarer Anteil	#####	entspricht		Punkt 5.2.3 a, b oder c			Punkt 5.2.3 a, b oder c

Schlussblock

ERSTELLT			
GWR-Zahl	<input type="text"/>	ErstellerIn	<input type="text"/>
Ausstellungsdatum	<input type="text"/>	Unterschrift	<input type="text"/>
Gültigkeitsdatum	<input type="text"/>		
Geschäftszahl	<input type="text"/>		

Renovation roadmaps produced for case study buildings in TIMEPAC - what is the right level of detail?

TIMEPAC Code	Exemplary renovation roadmap: measures in the correct sequence (final result depends on maintenance and repair plan of facility management)	Timing of measures to avoid possible lock-in effects; considering interactions
AT-09	<p>Building level:</p> <p>(1) Package of measures:</p> <p>Renovation and insulation of roof (measure 1) Installation of PV system on the roof (measure 2)</p> <p>(2) Package of measures:</p> <p>North and south façade: Prefabricated Curtain wall, e.g. “GAP façade”, including windows and mechanical ventilation with heat recovery (measure 3) West and east façade: GAP façade with integrated PV panels in the upper third of the façade (measure 4)</p> <p>(3) Package of measures (measures 5-8):</p> <p>Reduction of water supply and return temperature of the heating system Low-temperature heat delivery system (panel heating) Individual room control with optimisation function Separation of space heating and domestic hot water production</p> <p>District level:</p> <p>Decarbonisation of district heating</p>	<p>All measures of Package (1) and Package (2) are implemented prior to Package (3).</p> <p>The Renovation Roadmap must be immediately agreed with the owners to stop individual replacement of windows.</p> <p>Insulation measures must be checked regarding fire safety requirements.</p> <p>When planning the individual measures, the following interactions with other measures must be considered:</p> <p>Insulation of the façade requires a watertight connection to the flat roof.</p> <p>The renovation of the flat roof must take into account the installation of a PV system. It must be checked whether the statics of the building are suitable for the additional load.</p> <p>The PV system is installed after the renovation of the flat roof.</p>

The roadmap is not a renovation plan.

The sequence is done by the EPC/RP issuer.

Interactions are included in the software tool and are activated when a measure is selected; to be considered in the renovation plan.

The roadmap is uploaded to the EPC database and made accessible to the facility manager of the building to consider it for future planning.

Example | Renovation passport in the province Salzburg, Austria | The path towards Nearly Zero Energy Building

Essentially, the recommendations in the EPC are replaced by the specific renovation passport. The implementation of a measure is linked to the updating of the EPC and to the updating of the renovation passport. Thus, by means of comparisons, the measures and the indicators can be tracked.

EPC existing buildings

Tracking the implementation of renovation measures with the EPC database

EPC renovation roadmap

EPC renovation plan



EPC renovation completion

Measures of renovation roadmap partly implemented



EPC existing building

EPC renovation roadmap

Those measures implemented are not included any longer

Automatic check: Is the renovation roadmap available? Will requirements be achieved?

EPC renovation plan



EPC renovation completion

Measures of renovation roadmap partly implemented



EPC existing building

Why is this important? It's not just about energy planning,
but also about reporting on target achievement

Link with National Energy and Climate Plan according to EU Governance Regulation

Recital (41)

The national building renovation plans should be closely linked with the integrated national energy and climate plans under Regulation (EU) 2018/1999, and **progress in achieving the national targets and the contribution of the national building renovation plans to national and Union targets should be reported as part of the biennial reporting under Regulation (EU) 2018/1999.**

Conclusions

The renovation passport scheme should be designed

- to be effective at building level and
- to deliver useful information for the national building renovation plan.

The better the information about existing buildings and renovation measures, the easier it is to plan, evaluate and adapt policies and measures.

**If you would like more information,
please visit www.timepac.eu or contact us at
s.geissler@sera.global**

Thanks for your attention!