

ALDREN

**Alliance for Deep RENovation
in buildings.**

ALDREN – Building Renovation Passport



ALDREN ALliance
for Deep RENovation
in buildings



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What is a Building Passport?



→ The term **Building Passport** is currently being used with **differing meanings** and there is **no a single definition**.

→ The **BP** general objective is to provide information to a potential purchaser, investors, renter or user of the building.

→ The common view - within the current initiatives - define the BP as:

1. a comprehensive collection of various building-related documents;
2. a checklist documentation-structure displaying the most important performance characteristics and technological data of a building;
3. a means of protecting the user (owner, seller, tenant) by providing key future of the property with easily understood information about the building is intended to work.

(Source: M. Fabbri M. De Groot O. Rapf, Building Renovation Passports Customized roadmaps towards deep renovation and better homes, 2016, ISBN: 9789491143175)



BP definition within EU



| NAME | COUNTRY | AUTHOR/S - SOURCE |
|---------------------------------------|-------------------|---|
| Building Passport | Germany | Töpfer, 1997 |
| ImmoPass | Germany | DEKRA Umwelt GmbH HypoVereinsbank, 2000 |
| Gebaudepass | Germany | Bundesministeriums für Verkehr, Bau und Wohnungswesen (BMBBW) |
| Building folder (Hausakte) | Germany | European Construction Sector Observatory |
| Building Passport | Finland | Finnish Green Building Council and Virta et al. |
| Concept of Building File | Netherlands | Dutch Consultation Platform Building Legislation |
| As-Built File (Opleverdossier) | Netherlands | Ministry of Internal Affairs |
| Libro del Edificio | Spain | Ministerio de Fomento, Spain |
| Fascicolo del fabbricato | Italy | Consiglio Nazionale dei Periti Industriali e dei Laureati |
| Home information pack | England and Wales | Office of the Deputy Prime Minister |
| Building Log Book | Cornwall | Cornwall Council, Environment Directorate |
| Building Log Book | UK | CIBSE Building log book tool kit |

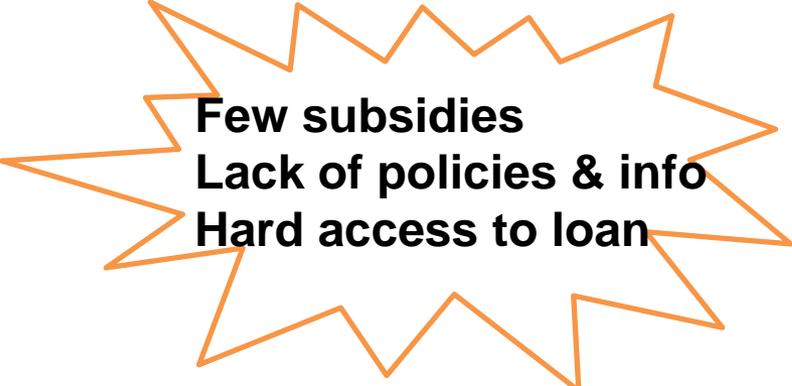
(Source: Sesana M. M., Salvalai G., A review on Building Renovation Passport: Potentialities and barriers on current initiatives, Energy & Buildings 173 (2018) 195–205.)

BP for existing buildings



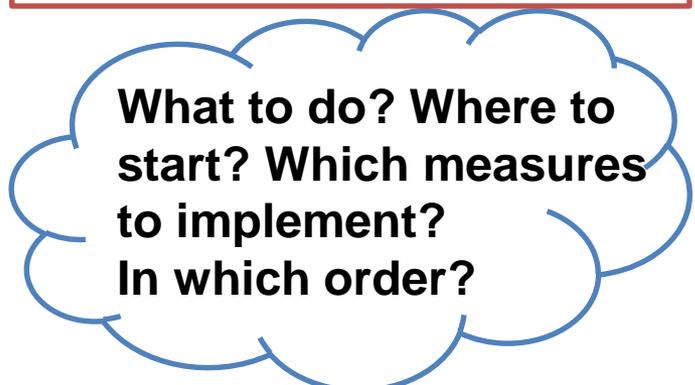
Despite the proven benefits and economic and technical feasibility of building renovation, **renovation rates are still low, close to 1.2% per annum** and considerably below the expected level (2-3% annually).

DIFFICULTY TO ACCESS FINANCE



- Few subsidies
- Lack of policies & info
- Hard access to loan

LACK OF KNOWLEDGE



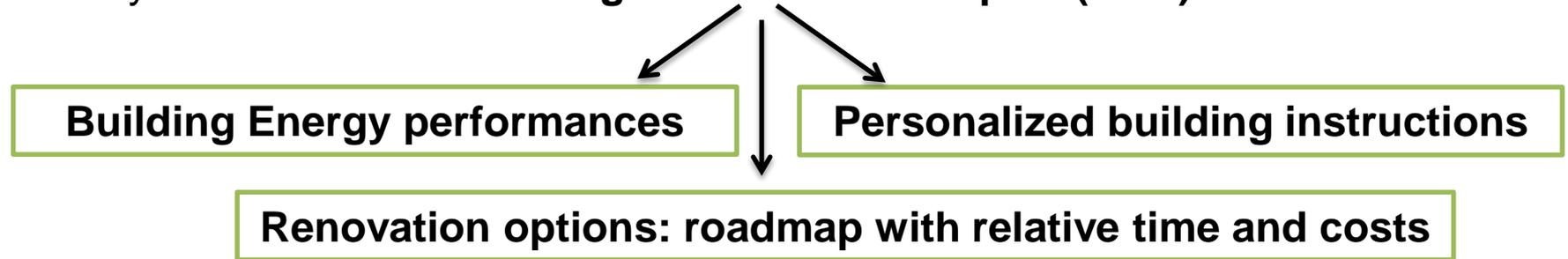
What to do? Where to start? Which measures to implement?
In which order?

EPCs could be the appropriate tool to provide this information in a meaningful and comprehensible way → BUT it is currently not designed to provide tailor-made and understandable information about renovation potentials.



EPC evolution into «Building Renovation Passport»

The EPBD amendment, approved at the end of April 2018 by the EU commission, will trigger a further evolution of the EPCs in a more comprehensive and user-friendly instrument: the **Building Renovation Passport (BRP)**.



The BRP can **trigger the renovation market** increasing the building owner awareness and reducing the investor's risks.

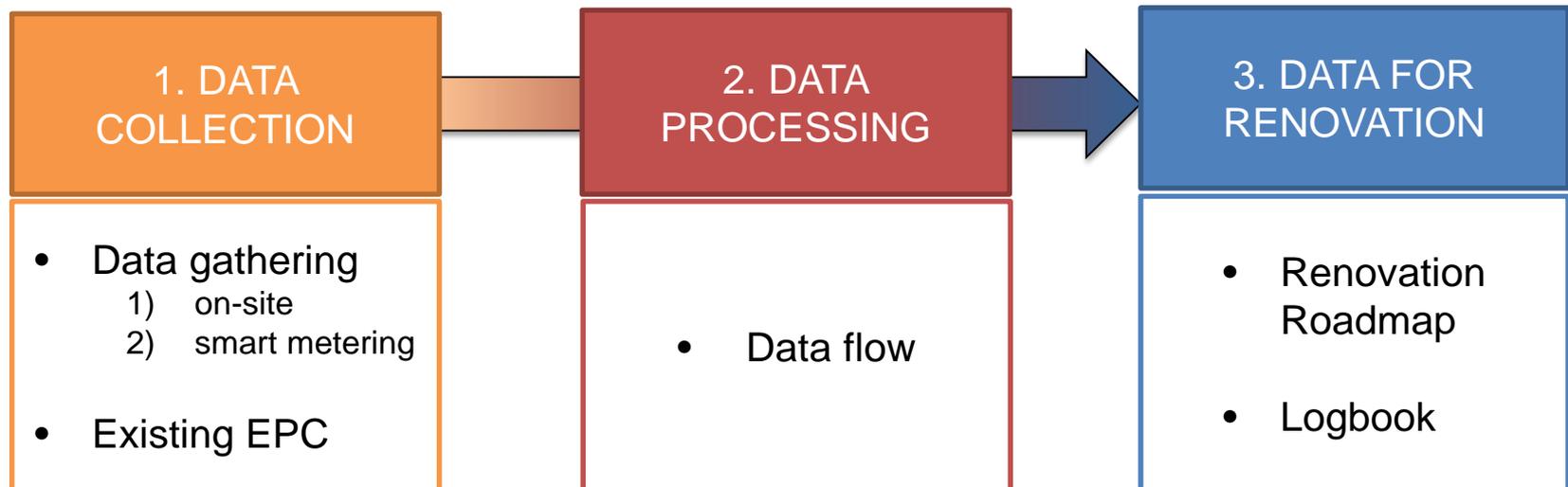
ALDREN ALLIANCE
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in buildings **BRP**



What is a Building Renovation Passport?



The **BRP** can be defined as a documents, in electronic or paper format, outlining the long-term step-by-step renovation roadmap as a result of an on-site energy audit and the strong dialogue with the owner.



(Source: M. Fabbri M. De Groot O. Rapf, *Building Renovation Passports Customized roadmaps towards deep renovation and better homes*, 2016, ISBN: 9789491143175)

BRP overview on existing EU initiative

BETTER HOME



Eksempel på ny energi med MODERNISERINGSPAKKEN:

KONKRETE LØSNINGSFORSLAG:

- El-besparende cirkulationspumper
- Nye automatisk regulerbare cirkulationspumper
- Trådløst styrede radiatortermostater med indbyggede spareprogrammer
- Isolering af tekniske installationer
- Nye vinduer og døre
- Udskiftning af gamle ovenlyskupler
- Etablering af ekstra ovenlyskupler eller -moduler
- Ombygning af tagkonstruktionen med ekstra isolering
- Facadeisolering med puds eller beklædning
- Ventilationsanlæg
- Varmepumpe-løsning

KONKRETE PRODUKTVALG:

- Danfoss Link CC™ og living connect™
- Danfoss – air – ventilationsanlæg med varmegenvinding
- Danfoss – Air – Ventilationsanlæg
- Danfoss – Jordvarme eller luft-til-vandvarmepumpe
- Grundfos – ALPHA2 – centralvarmepumpe
- Grundfos – Comfort PM – Varmtbrugs vandpumpe
- VELUX ovenlyskupler – udskiftning af 4 stk. + 2 nye
- VELUX ovenlyskupler – nyetablering af 3 stk.
- Rational – Nye vinduer og døre
- ROCKWOOL – rørisolering
- Facaderenovering – isolering med ROCKWOOL system
- ROCKWOOL – Efterisolering af Built-up tag

Erfaringer viser, at de nævnte løsninger kan installeres til i alt **715.000 kr.**

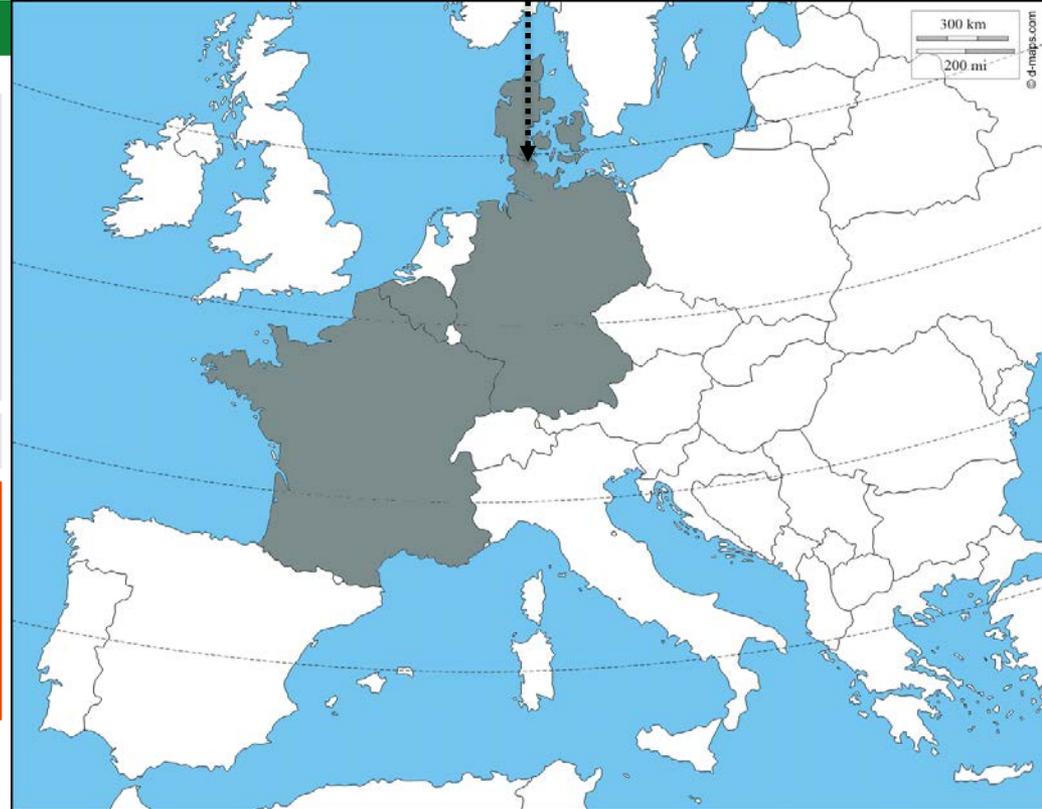
EKSEMPEL PÅ LÅNEBEREGNING:

Energibesparelsen betaler lånet på 24 år

Efter 24. år giver MODERNISERINGSPAKKEN et overskud på 2.500 kr./måned
Tilskud via energiselskab: 18.000 kr.

INVESTERINGSPRIS OP TIL:
715.000 KR.

ENERGIBESPARELSE:
OP TIL **76 %**
30.000 kr./år

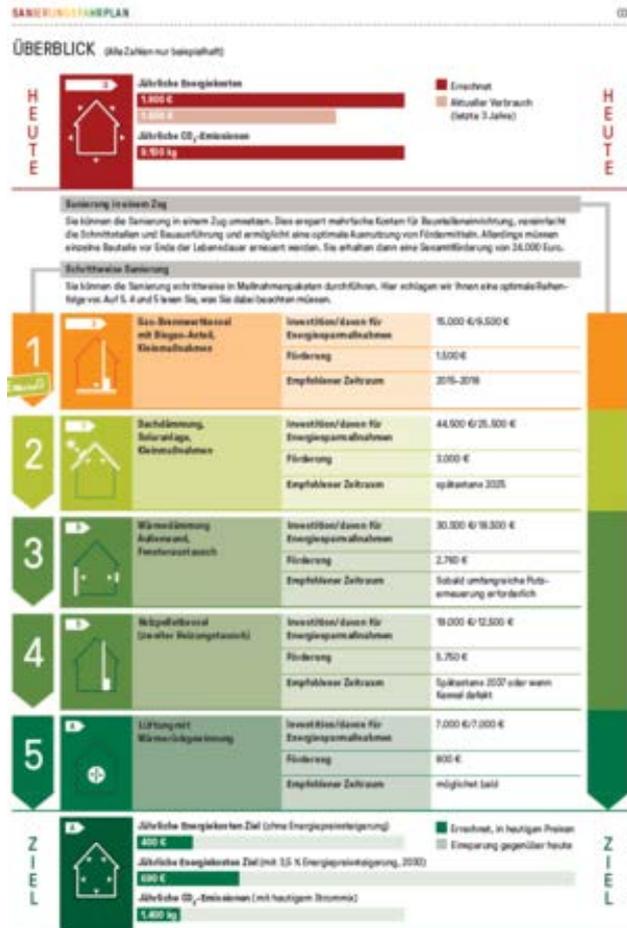


(Source: *rielaboration of the authors from iBRoad country factsheets available at: <http://bpie.eu/publication/current-use-of-energy-performance-certificates-in-8-eu-countries-and-potential-links-to-ibroad/>*)



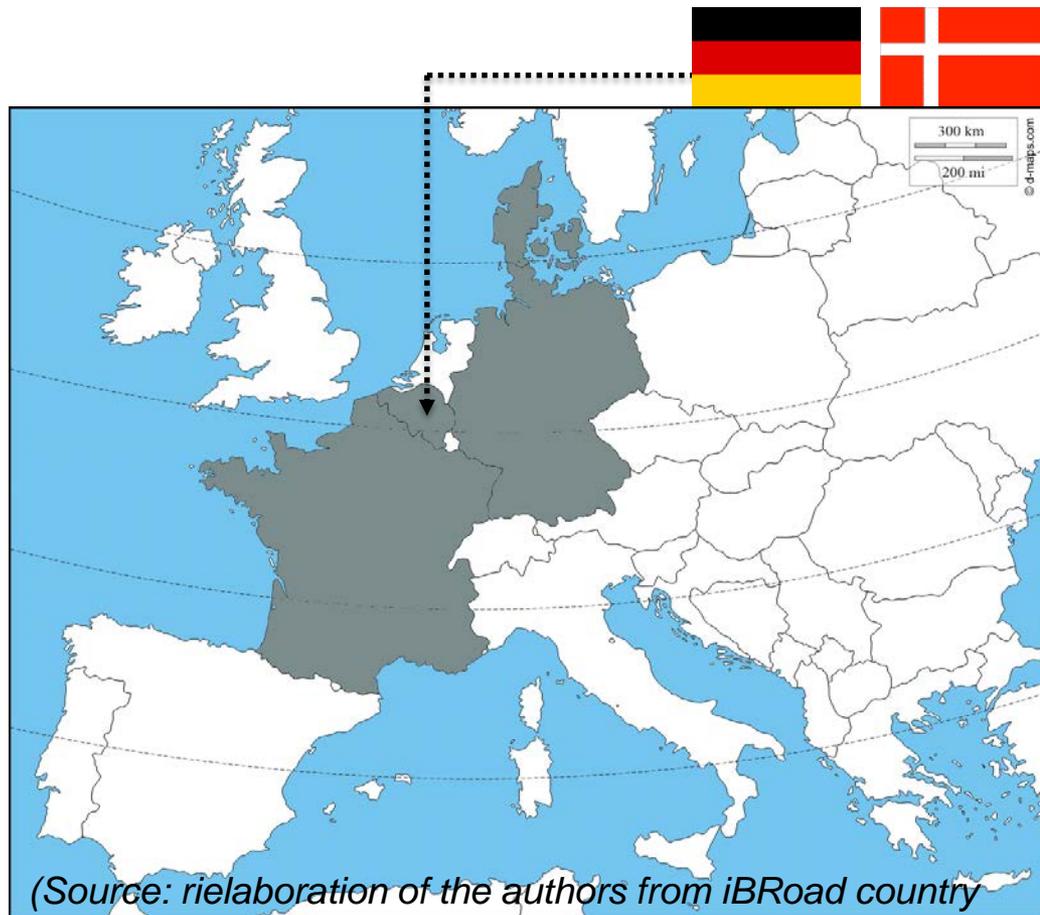
BRP overview on existing EU initiative

SANIERUNGSFAHRPLAN



TODAY

TARGET



(Source: relaboration of the authors from iBRoad country factsheets available at: <http://bpie.eu/publication/current-use-of-energy-performance-certificates-in-8-eu-countries-and-potential-links-to-ibroad/>)



BRP overview on existing EU initiative

WONINGPAS & EPC+

Energie

EPB | zonnekaart | advies | gas- & elektriciteitsmeter | meer informatie

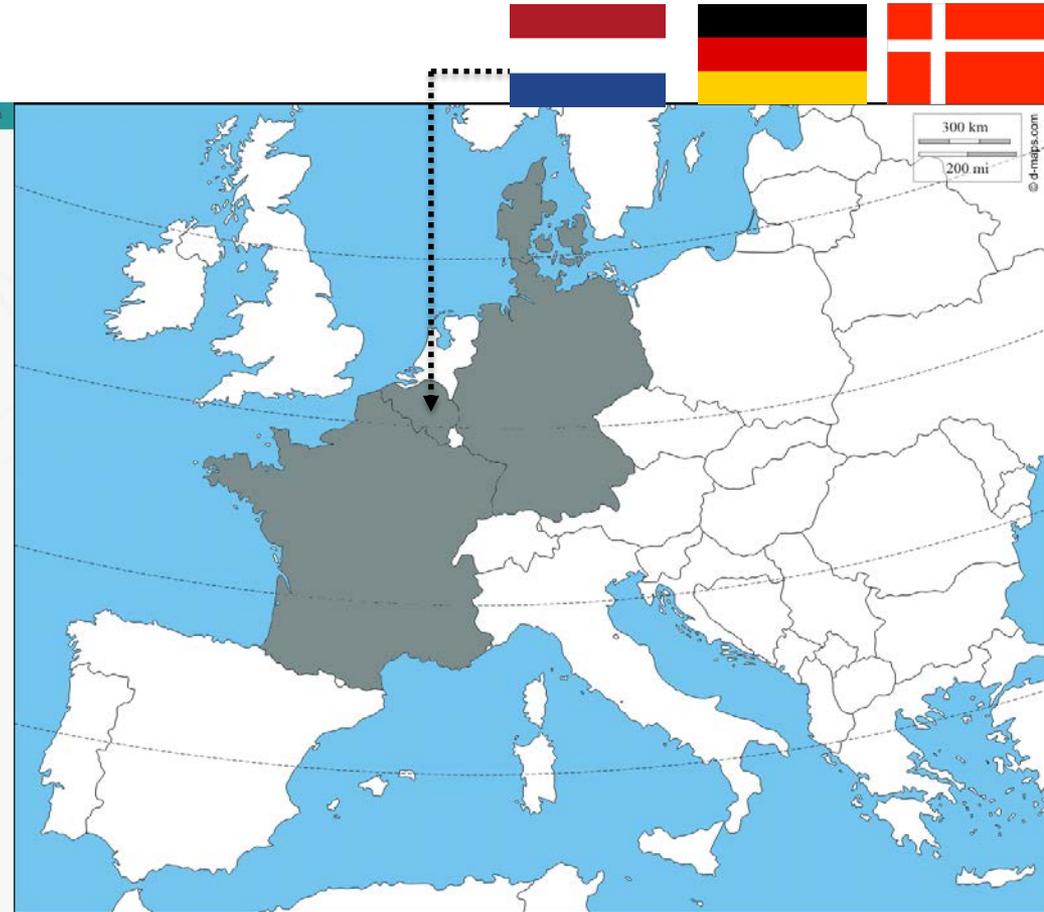
Advies uit EPC

- Prioriteit 1**: Zo snel mogelijk te renoveren
- Prioriteit 2**: Te renoveren binnen 1 - 5 jaar
- Prioriteit 3**: Te renoveren binnen 10 jaar

| omschrijving | advies | prijschatting |
|--|---|---------------------|
| Zoldervloer De zoldervloer is momenteel nog niet geïsoleerd | Voorzie isolatie | € 4000 - € 6000 |
| Spouwmuur De spouwmuur is niet geïsoleerd | Voorzie isolatie | € 13 500 - € 15 000 |
| Spouwmuur De spouwmuur is geïsoleerd (4cm PUR), maar er is niet voldoende isolatie aanwezig om de langetermijndoelstelling te halen. | Overweeg verder onderzoek over welke bijkomende isolatie best geschikt is. | |
| Hellend dak Het dak is geïsoleerd (11 cm rotswool) maar presteert minder goed dan de langetermijn doelstelling. | Overweeg het plaatsen van extra dakisolatie, waarbij ook aandacht kan besteed worden aan goede luchtdichtheid | |

Energieschaal na uitvoering van de aanbevelingen volgens de verschillende prioriteiten

| Letter | Target (kWh/m² jaar) |
|--------|----------------------|
| A | 60 |
| B | 180 |
| C | 345 |
| D | 460 |
| E | 477 (Current) |
| F | 575 |
| G | 690 |



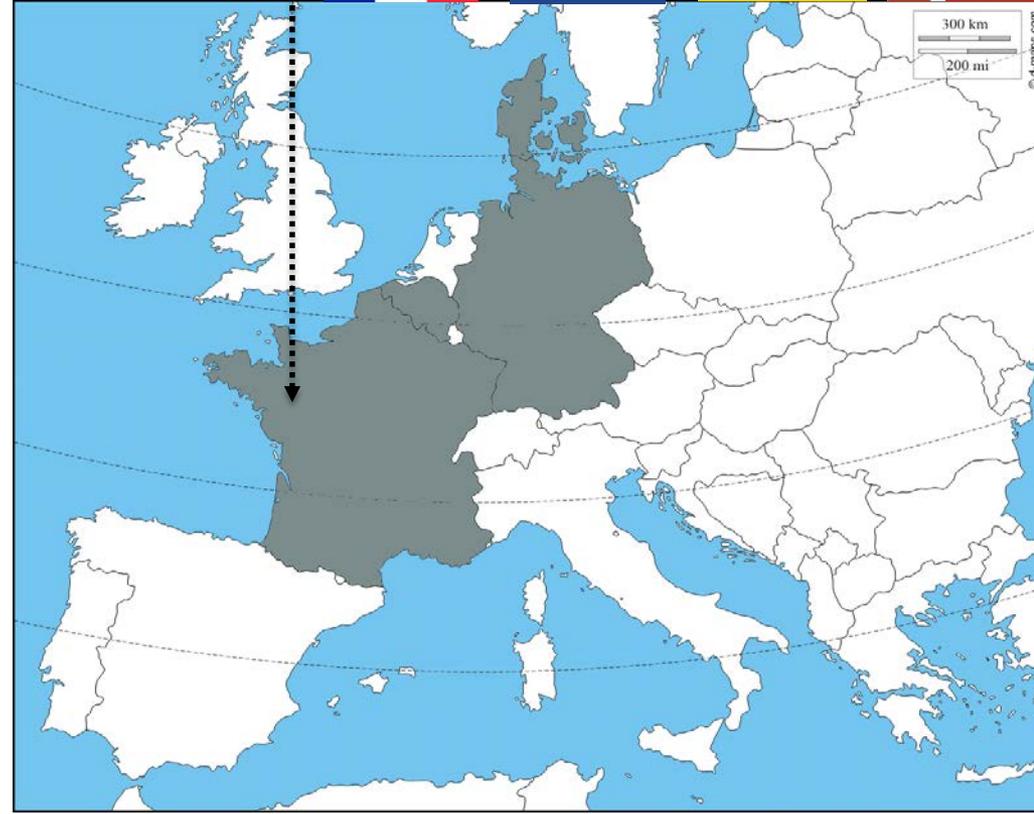
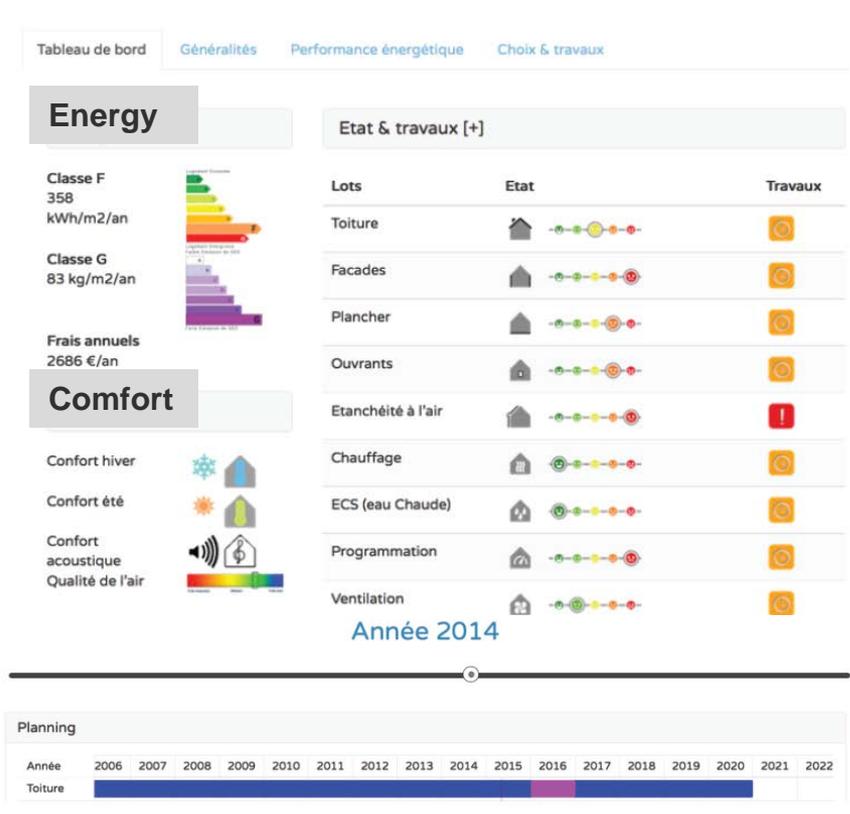
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BRP overview on existing EU initiative



PASSEPORT EFFICACITÉ ENERGÉTIQUE (P2E)

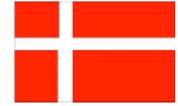
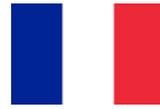


(Source: rielaboration of the authors from iBRoad country factsheets available at: <http://bpie.eu/publication/current-use-of-energy-performance-certificates-in-8-eu-countries-and-potential-links-to-ibroad/>)



BRP Comparison


LEGEND:
 UNDER DEVELOPMENT
 IMPLEMENTED
 NOT AVAILABLE



Woningpas

P2E

iSPF

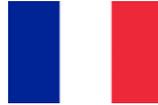
BetterHome

| | Woningpas | P2E | iSPF | BetterHome |
|--------------------------------------|---|---|---|---|
| Energy Audit – On site visit |  |  |  |  |
| Loogbook/database |  |  |  |  |
| Definition of Deep renovation target |  |  |  |  |
| Roadmap (tailored solution) |  |  |  |  |
| Long term target (2050) |  |  |  |  |
| Integrated financial support |  |  |  |  |
| Stakeholders mapping |  |  |  |  |
| Auditors training |  |  |  |  |

(Source: M. Fabbri M. De Groot O. Rapf, Building Renovation Passports Customized roadmaps towards deep renovation and better homes, 2016, ISBN: 9789491143175)



BRP Comparison



Woningpas

P2E

iSPF

BetterHome



COMMON BARRIERS

Lack of a common database and low data availability.

Difficulties to access subsidies and **lack of awareness** of available **financial measures or incentives**.

The recommendations included in the EPC are often generic.

Uncertainty regarding the renovation process:
Complex process with different professionals involved.

No quality control on data and certification results (gap between the actual and designed performances).

LESSONS LEARNED



→ Owner and stakeholder **engagement**

→ **Long-term** perspective

→ **Timing** and sequencing of actions of renovations

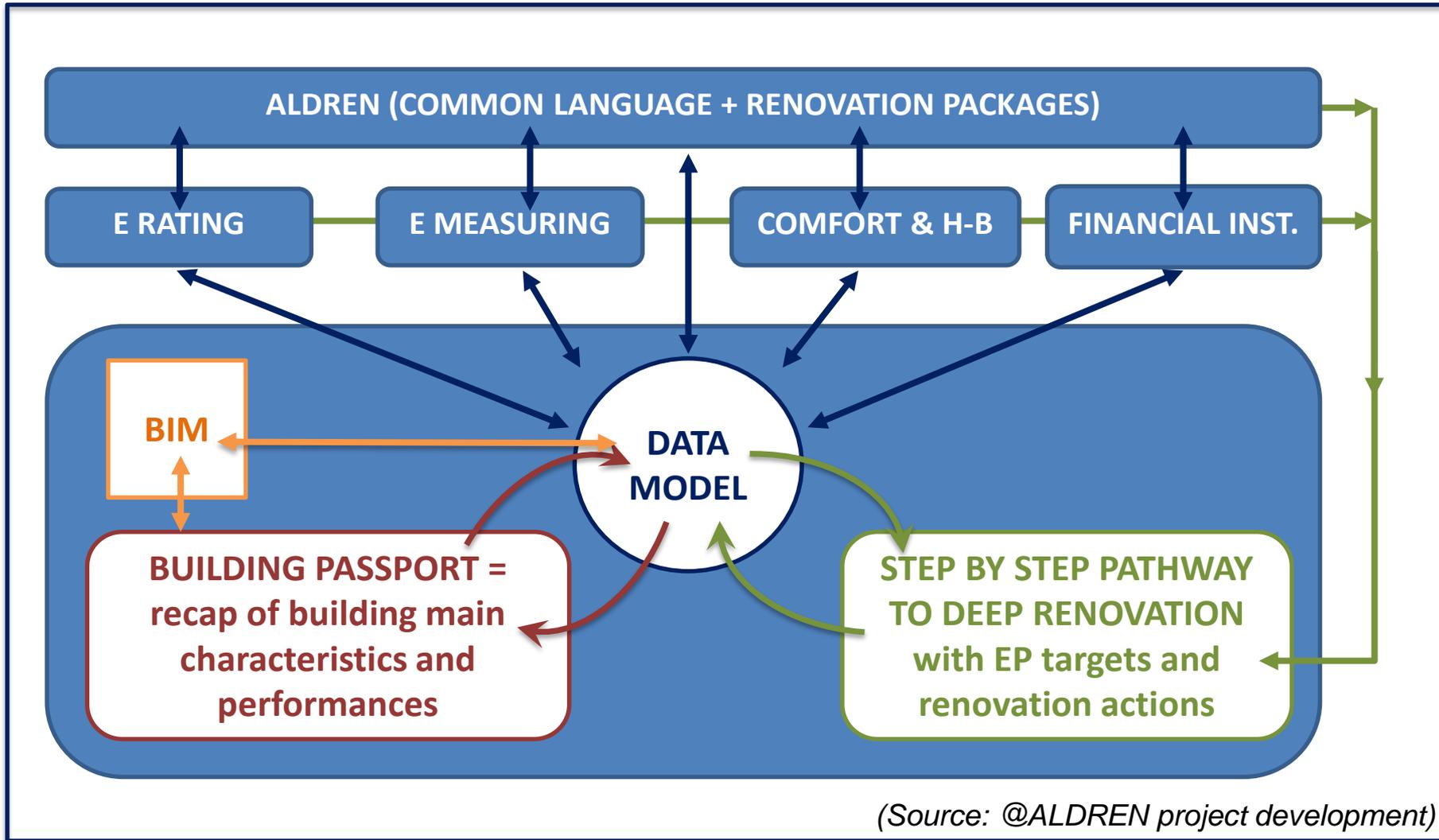
→ **Comfort** as a driver for renovation

→ EPC and BRP should be structured as a **friendly toolbox**

→ Set a **common language** comprehensible for all the target groups

(Source: @ALDREN project development)

ALDREN BRP methodology and inputs



ALDREN BRP structure

The DM of the ALDREN BRP has been structured in 3 different section with a dedicated instructions and references for each indicators of the proposed BRP.

1. BUILDING FEATURES

1.1
Building characteristics

1.2
Technical building system

1.3
Building macro elements

2. BUILDING PERFORMANCE

2.1
Energy needs

2.2
Health and Well being

2.3
Predicted & Real EP

2.4
Regulations, financial aspect & cost optimal

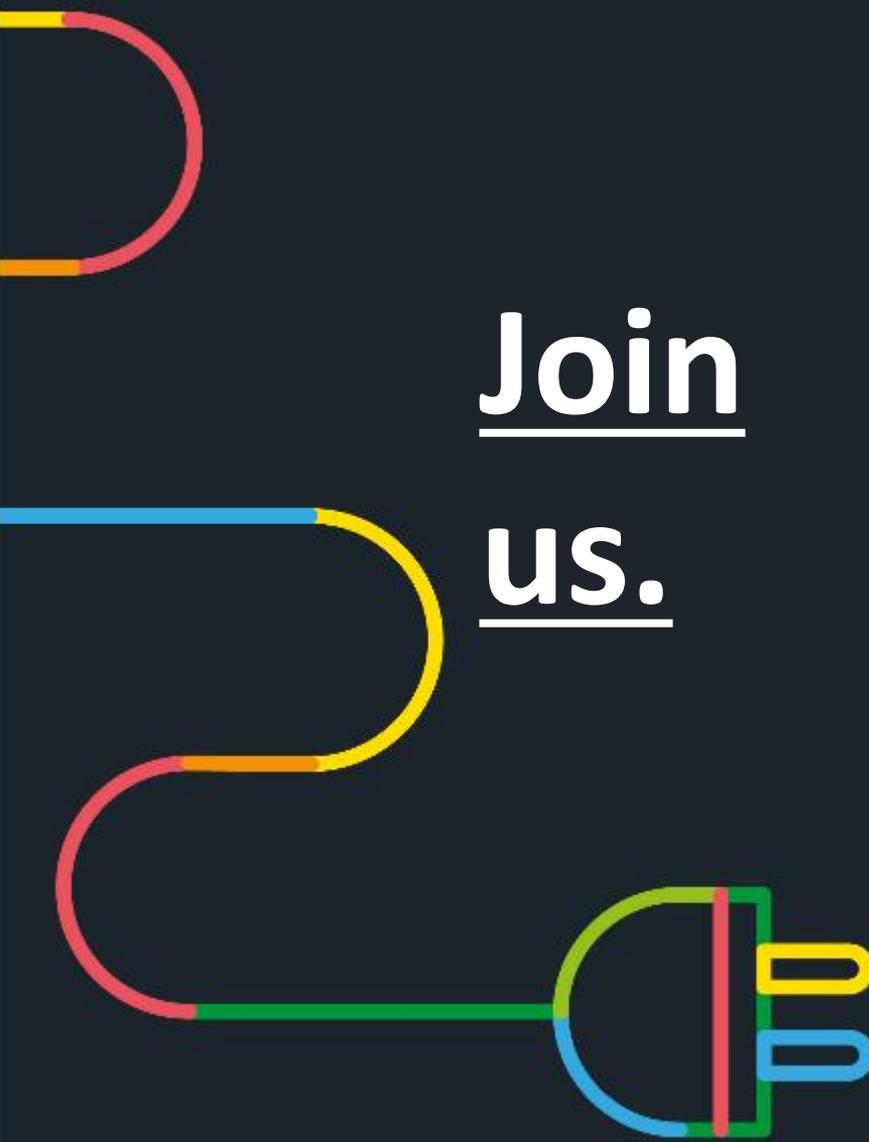
3. ROADMAP & Step by Step

3.1
Recommendations

3.2
Step by step approach

(Source: @ALDREN project development)





Join
us.

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