

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°754045

iBRoad project update

April 2020

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Sympraxis Team

iBRoad webinar
2020/04/23

The iBRoad “pitch”

A concept for the Building Renovation Passport

Renovating a building can be complex, especially if done in several steps, as most house renovations in Europe. To help home owners, iBRoad has worked on the Building Renovation Passport concept, specifically developing and testing an Individual Building Renovation Roadmap, which provides a customised long-term (5-20 years) renovation plan. This is further supported by a Logbook –a repository of building information such as blueprints, works implemented, energy consumption and production, etc.

The iBRoad “pitch”

A concept for the Building Renovation Passport

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The iBRoad tools and methodologies are flexible and can be adapted to different situations, but preliminary assessment and a structured approach to deployment are important. In addition, for the Building Renovation Passport to achieve its full potential impact in practice, surrounding policy instruments are essential. These include economic, regulatory and information instruments supporting a synergistic approach.

Building renovation can be a challenge



A plan can help

DEEP AND QUALITATIVE RENOVATION

HOLISTIC RENOVATION PROCESS

BUILDING RENOVATION ROADMAP



Source: Energiesprong

Detailed Renovation Roadmap

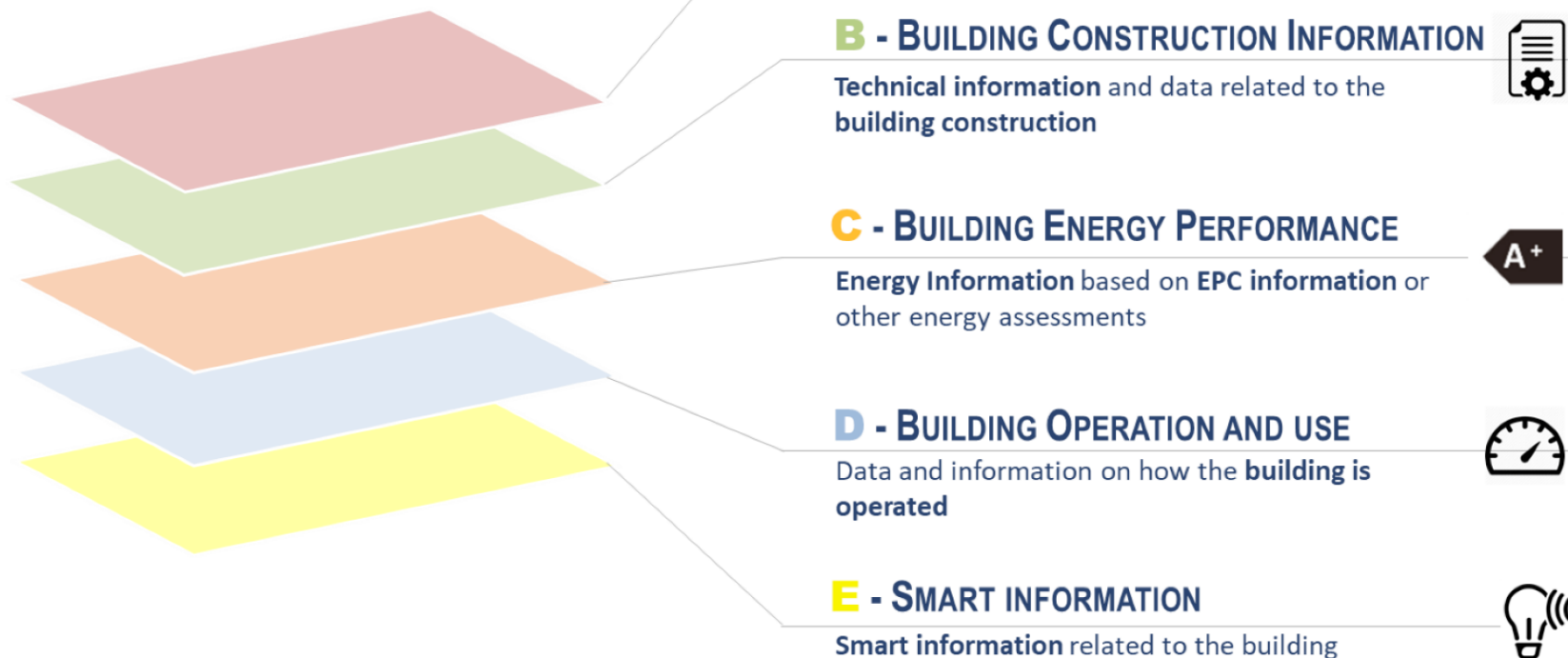
Step by Step Plan

	ENERGY CLASS G Your building Moment of delivery	ENERGY CLASS E Renovation Step 1 When boiler needs to be exchanged	ENERGY CLASS D Renovation Step 2 2020 - 2020	ENERGY CLASS B Renovation Step 3 2020 - 2025	ENERGY CLASS A Renovation Step 4 2025 - 2040
Measures		Measures • Add a thermal solar system	Measures • External Wall insulation	Measures • Substitution of the old window • Wall insulation	Measures • Installation of a heat recovery unit • Substitution of the heating system by a heating pump
Energy Demand	Primary Energy Demand 250 kWh/m ² a Main Energy Source Natural Gas Final Energy Demand Main Source 200 kWh/m ² a	Primary Energy Demand 210 kWh/m ² a Main Energy Source Natural Gas Final Energy Demand Main Source 200 kWh/m ² a	Primary Energy Demand 160 kWh/m ² a Main Energy Source Natural Gas Final Energy Demand Main Source 100 kWh/m ² a	Primary Energy Demand 100 kWh/m ² a Main Energy Source Natural Gas Final Energy Demand Main Source 80 kWh/m ² a	Primary Energy Demand 100 kWh/m ² a Main Energy Source Electricity Final Energy Demand Main Source 80 kWh/m ² a
Energy Demand	Final Energy Demand second Source 0 kWh/m ² a Auxiliary Energy Source Electricity Final auxiliary Energy Demand 15 kWh/m ² a Energy Bill 1000 €/a Carbon Footprint 40 kg/m ² a	Final Energy Demand second Source 15 kWh/m ² a Auxiliary Energy Source Electricity Final auxiliary Energy Demand 15 kWh/m ² a Energy Bill 1000 €/a Carbon Footprint 30 kg/m ² a	Final Energy Demand second Source 15 kWh/m ² a Auxiliary Energy Source Electricity Final auxiliary Energy Demand 15 kWh/m ² a Energy Bill 1000 €/a Carbon Footprint 20 kg/m ² a	Final Energy Demand second Source 15 kWh/m ² a Auxiliary Energy Source Electricity Final auxiliary Energy Demand 15 kWh/m ² a Energy Bill 1000 €/a Carbon Footprint 10 kg/m ² a	Final Energy Demand second Source 15 kWh/m ² a Auxiliary Energy Source Electricity Final auxiliary Energy Demand 15 kWh/m ² a Energy Bill 1000 €/a Carbon Footprint 10 kg/m ² a
Costs		Investment Costs for Renovation Step 10000 € Included Costs for Maintenance 10000 €	Investment Costs for Renovation Step 2500 € Included Costs for Maintenance 20000 €	Investment Costs for Renovation Step 2500 € Included Costs for Maintenance 40000 €	Investment Costs for Renovation Step 20000 € Included Costs for Maintenance 10000 €
Incentives		Name of incentives KfW Incentives 10000 €	Name of incentives Name of incentives Incentives 10000 €	Name of incentives Name of incentives Incentives 10000 €	Name of incentives Name of incentives Incentives 10000 €
Energy Changes		Changed Comforts	Changed Comforts	Changed Comforts	Changed Comforts

Source: iBRoad

So can a reference

iBRoad Logbook



Source: iBRoad project report "The logbook data quest" <https://ibroad-project.eu/news/the-logbook-data-quest/>

INFORMATION AT INDIVIDUAL BUILDING LEVEL

EXISTING ENERGY PERFORMANCE CERTIFICATE (EPC)

ON-SITE GATHERED INFORMATION

- Energy audit
- Building professionals, e.g. construction plan, info installations, BIM, etc.
- Building owner or tenant
- Public authorities

AUTOMATED DATA

- Smart meters
- Monitoring systems, e.g. RES, heating, CO₂ meters, etc.

BUILDING RENOVATION PASSPORT

RENOVATION ROADMAP

- Comprehensive audit
- Systematic renovation in a sensible order and packages
- Considers individual context
- Long-term perspective

LOGBOOK

- Inventory of building-related information
- Functionalities for users
- Beyond energy
- Linking building owners and users to third parties

Directive (EU) 2018/844, Article 2a

Long-term renovation strategy

1. Each Member State shall establish a long-term renovation strategy to support the renovation of the national stock of residential and non-residential buildings, both public and private, into a highly energy efficient and decarbonised building stock by 2050, facilitating the cost-effective transformation of existing buildings into nearly zero-energy buildings. Each long-term renovation strategy shall be submitted in accordance with the applicable planning and reporting obligations and shall encompass:

*[...] (c) policies and actions to stimulate cost-effective deep renovation of buildings, including **staged deep renovation**, and to support targeted cost-effective measures and renovation for example by introducing an optional scheme for **building renovation passports**; [...]*

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- **83%** of respondents think they can reduce their household's energy consumption through renovation measures
- **92%** thinks that energy efficiency will be an important aspect when deciding to purchase a home
- Only **9%** would trust the Energy Performance Certificate for advice about potential renovation measures

BULGARIA



- To finance the renovation, **84%** planned to use money that they had saved up
- **44%** of respondents in Poland are interested in a building passport or logbook for their home or the home they would buy but would not be willing to pay
- **71%** have completed a renovation in the past five years

POLAND




- **51%** are more concerned about having a warm and comfortable home than saving energy
- **47%** would go to the Energy Performance Certificate for advice about renovation measures
- **49%** think that potential buyers should be allowed to access the logbook with all relevant information about the building


PORTUGAL



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Individual Building Renovation Roadmaps




The logbook data quest


Setting up indicators and other requirements for a renovation passport

ADENE – Agência para a Energia
July 2018

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Individual Building Renovation Roadmaps




The iBRoad Concept in practice

Report on suggested elements, content and layout of the iBRoad tools

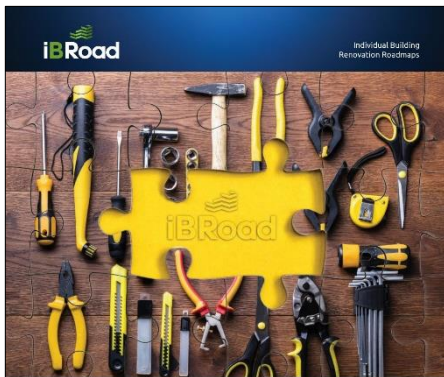
ADENE – Agência para a Energia
November 2018

www.ibroad-project.eu

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The iBRoad tools structure
How to integrate techno-economic assessment, individual building renovation roadmap and logbook components in iBRoad

TU Wien – Technische Universität Wien
November 2018

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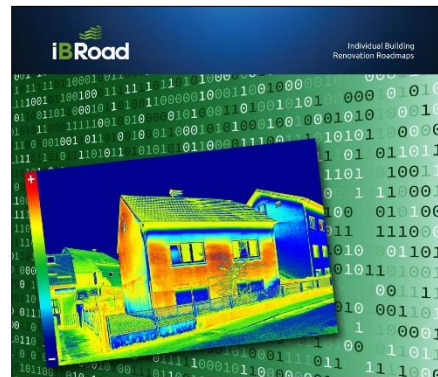



Quantifying home renovation
Report and database for techno-economic default assessment of renovation measures

TU Wien – Technische Universität Wien
November 2018

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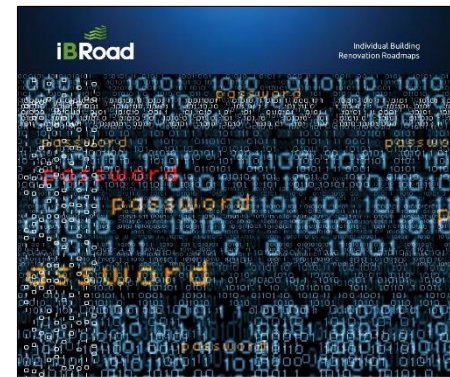



Simple energy demand calculation tool
Open source programme code of techno-economic default assessment of renovation measures

TU Wien – Technische Universität Wien
November 2018

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Database structure and programming core of the roadmap and logbook

Blue Planet Academy & Consulting
November 2018

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Individual Building Renovation Roadmaps



iBRoad Stakeholders Meetings

Key Notes and Findings of 1st physical events round

INZEB
September 2018

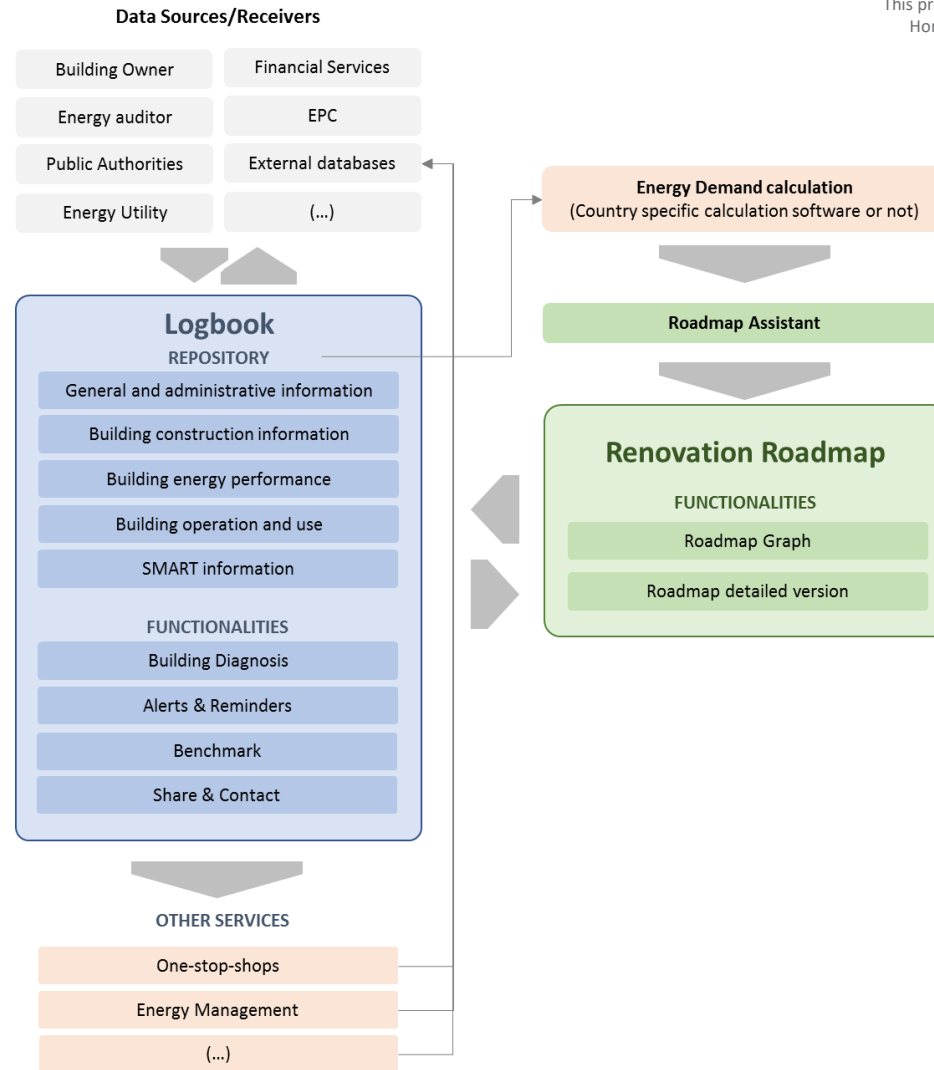
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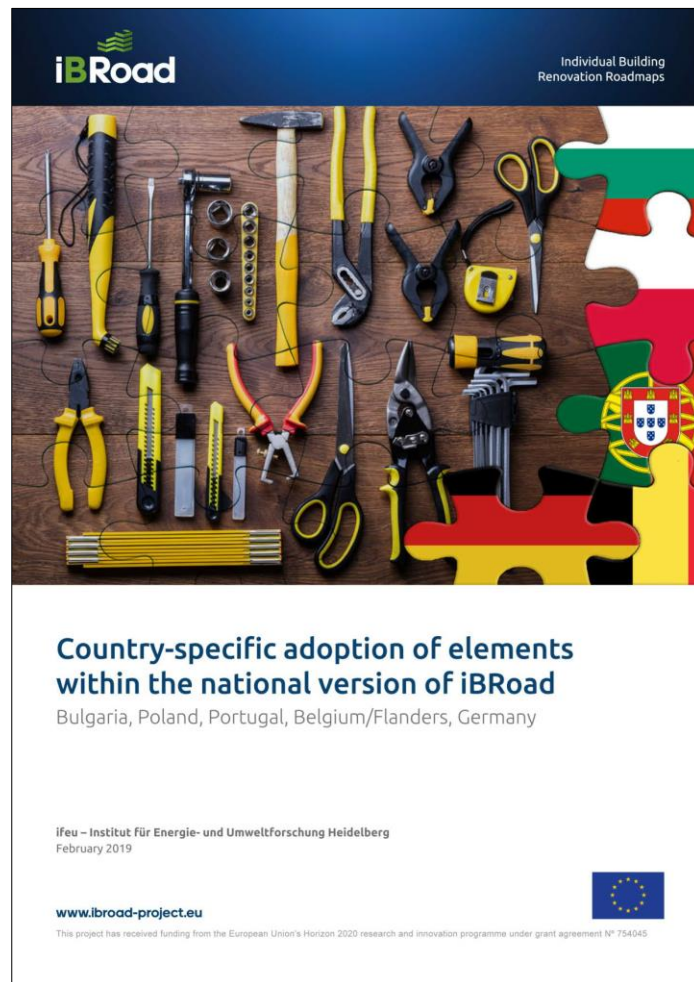




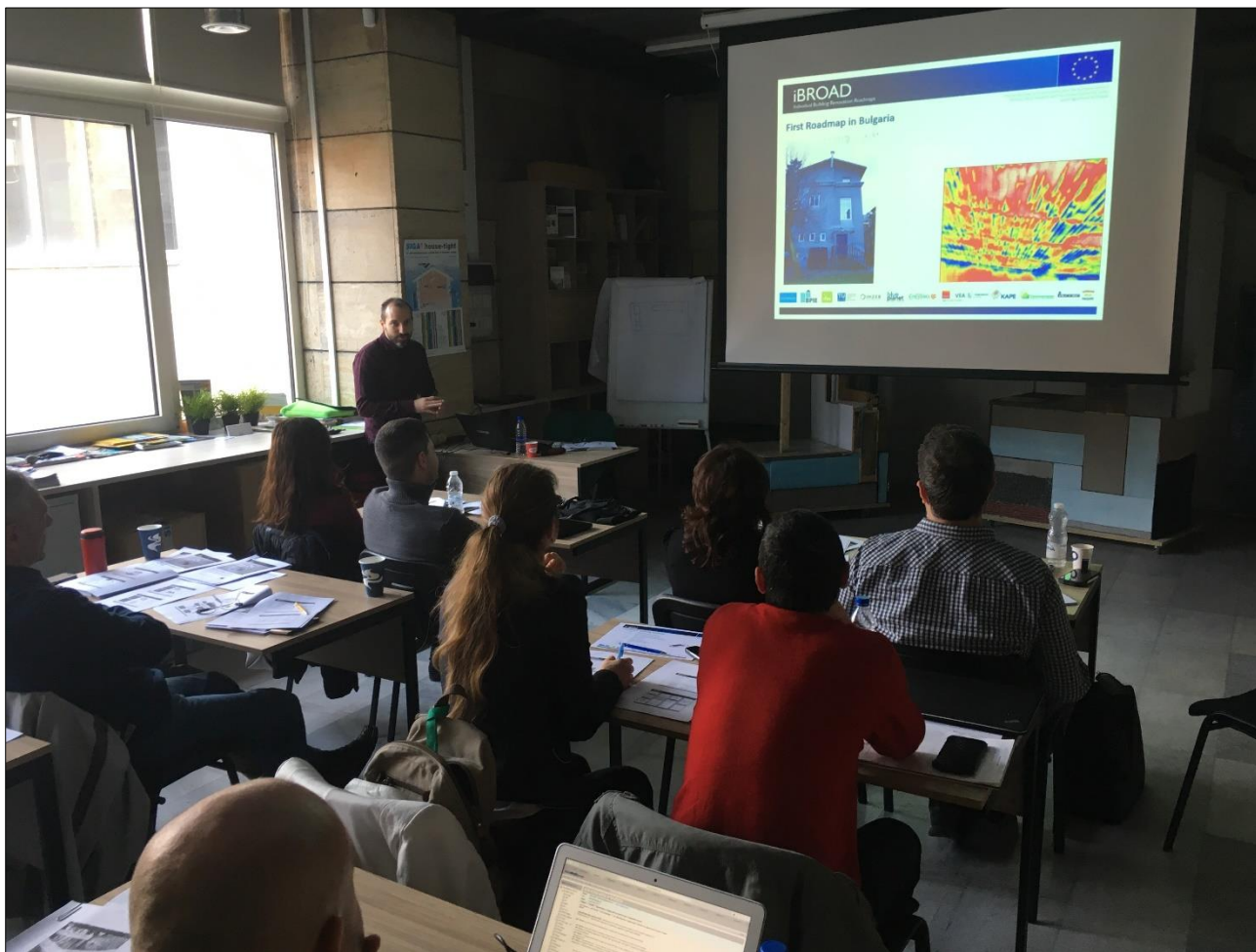
Main concept



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Individual Building Renovation Roadmaps



Handbook for Energy Auditors


Guidance and advice on how to create an iBRoad Individual Building Renovation Roadmap and how to use the iBRoad Building Logbook

ifeu – Institut für Energie- und Umweltforschung Heidelberg
February 2019


www.ibroad-project.eu

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Individual Building Renovation Roadmaps




iBRoad training toolkit

Guidance for auditors in the iBRoad pilot countries

ifeu – Institut für Energie- und Umweltforschung Heidelberg
March 2019

www.ibroad-project.eu

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Individual Building Renovation Roadmaps



The iBRoad field test experience


Bulgaria, Poland, Portugal, Germany

ifeu – Institute for Energy and Environmental Research
August 2019


www.ibroad-project.eu



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Individual Building Renovation Roadmaps




Test-driving the Individual Building Renovation Roadmap and Logbook

Evaluation of the pilot implementation of iBRoad

ifeu – Institute for Energy and Environmental Research
August 2019

www.ibroad-project.eu



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Individual Building Renovation Roadmaps



How can Member States implement iBRoad?


Barriers and drivers for countries willing to explore the feasibility and replicability of iBRoad

BPiE – Buildings Performance Institute Europe
June 2019


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Individual Building Renovation Roadmaps




Stepwise and structured

Surrounding policy instruments to support the iBRoad approach for building renovation take-off

ifeu – Institute for Energy and Environmental Research
September 2019

www.ibroad-project.eu



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Home » Results » Reports

Reports



2019-10-30

Quantifying home renovation

This iBRoad output provides a default database supporting a generic techno-economic assessment of renovation measures. The default database consists of a...

[Read More](#)



2019-10-29

iBRoad develops code on energy demand calculation

The iBRoad project has made available an open-source programme for the techno-economic assessment of renovation measures and alternative renovation pathways of a building...

[Read More](#)



2019-04-15

The iBRoad training toolkit

The iBRoad Renovation Roadmap and Logbook are subjected to field testing in the pilot countries, Bulgaria, Poland and Portugal. By...

[Read More](#)

SEARCH

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[Info material](#)

[Expected Results](#)

IBROAD ON TWITTER

New renovation rules will require existing homes to be twice as energy efficient as current standards in Ireland
energyindemand.com/2019/10/04... via [@wordpressdotcom](#)

About a month ago from iBRoad
RenovPassport's Twitter via Twitter Web Client

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- ✓ To learn more on the topics that interest you, download our **reports**.
- ✓ You can also view previous webinars at the iBRoad project's **YouTube channel**.
- ✓ If you have proposals for iBRoad to be presented further, or are considering the potential implementation of building renovation passports (roadmaps and/or logbooks) in your country or area, **get in touch** with us via contact@ibroad-project.eu or the contact form on the website.



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Individual Building Renovation Roadmaps

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Thank you



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