

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

## **iBRoad project summary**

June 2020

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**Sympraxis Team**

**iBRoad webinar**  
**2020/06/04**

# 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

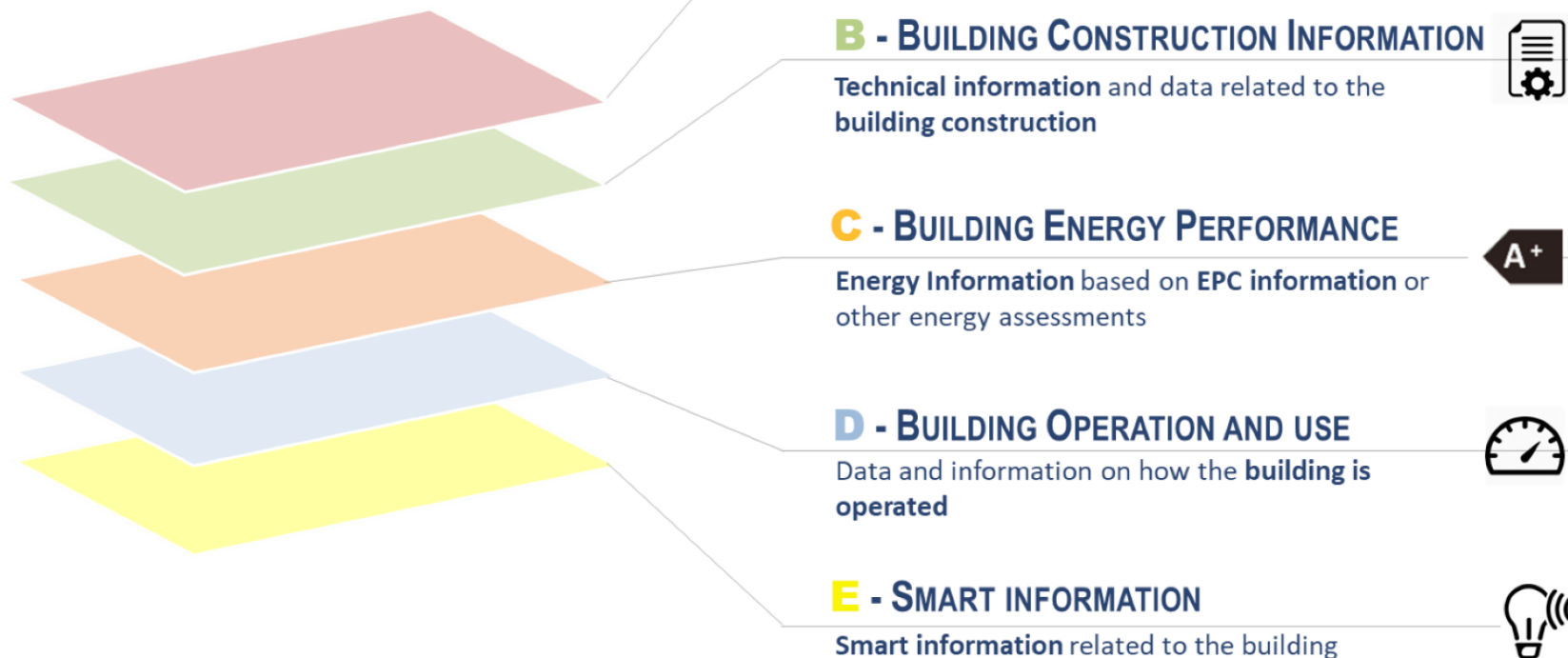
Step by Step Plan

	ENERGY CLASS <b>G</b>	ENERGY CLASS <b>E</b>	ENERGY CLASS <b>D</b>	ENERGY CLASS <b>B</b>	ENERGY CLASS <b>A</b>
	Year building Moment of delivery	Renovation Step 1 When boiler needs to be replaced	Renovation Step 2 2020 - 2020	Renovation Step 3 2020 - 2025	Renovation Step 4 2025 - 2040
Measures		Measures • Add a thermal solar system	Measures • External Wall insulation	Measures • Substitution of the old windows • Heat insulation	Measures • Installation of a heat recovery unit • Substitution of the heating system by a heat pump
Energy use	<b>Primary Energy Demand</b> 230 kWh/m <sup>2</sup> a <b>Main Energy Source</b> Natural Gas <b>Final Energy Demand</b> Main Source 200 kWh/m <sup>2</sup> a	<b>Primary Energy Demand</b> 210 kWh/m <sup>2</sup> a <b>Main Energy Source</b> Natural Gas <b>Final Energy Demand</b> Main Source 200 kWh/m <sup>2</sup> a	<b>Primary Energy Demand</b> 160 kWh/m <sup>2</sup> a <b>Main Energy Source</b> Natural Gas <b>Final Energy Demand</b> Main Source 160 kWh/m <sup>2</sup> a	<b>Primary Energy Demand</b> 100 kWh/m <sup>2</sup> a <b>Main Energy Source</b> Natural Gas <b>Final Energy Demand</b> Main Source 80 kWh/m <sup>2</sup> a	<b>Primary Energy Demand</b> 100 kWh/m <sup>2</sup> a <b>Main Energy Source</b> Electricity <b>Final Energy Demand</b> Main Source 80 kWh/m <sup>2</sup> a
CO <sub>2</sub>	<b>Final Energy Demand</b> second Source 0 kWh/m <sup>2</sup> a <b>Auxiliary Energy Source</b> Electricity <b>Final auxiliary Energy Demand</b> Electricity <b>Energy Bill</b> 1000 €/a <b>Carbon Footprint</b> 40 kg/m <sup>2</sup> a	<b>Final Energy Demand</b> second Source 15 kWh/m <sup>2</sup> a <b>Auxiliary Energy Source</b> Electricity <b>Final auxiliary Energy Demand</b> Electricity <b>Energy Bill</b> 1000 €/a <b>Carbon Footprint</b> 30 kg/m <sup>2</sup> a	<b>Final Energy Demand</b> second Source 15 kWh/m <sup>2</sup> a <b>Auxiliary Energy Source</b> Electricity <b>Final auxiliary Energy Demand</b> Electricity <b>Energy Bill</b> 1000 €/a <b>Carbon Footprint</b> 20 kg/m <sup>2</sup> a	<b>Final Energy Demand</b> second Source 15 kWh/m <sup>2</sup> a <b>Auxiliary Energy Source</b> Electricity <b>Final auxiliary Energy Demand</b> Electricity <b>Energy Bill</b> 1000 €/a <b>Carbon Footprint</b> 10 kg/m <sup>2</sup> a	<b>Final Energy Demand</b> second Source 15 kWh/m <sup>2</sup> a <b>Auxiliary Energy Source</b> Electricity <b>Final auxiliary Energy Demand</b> Electricity <b>Energy Bill</b> 1000 €/a <b>Carbon Footprint</b> 10 kg/m <sup>2</sup> a
Costs		<b>Investment Costs for Renovation Step</b> 10000 € <b>Included Costs for Maintenance</b> 10000 €	<b>Investment Costs for Renovation Step</b> 15000 € <b>Included Costs for Maintenance</b> 10000 €	<b>Investment Costs for Renovation Step</b> 20000 € <b>Included Costs for Maintenance</b> 10000 €	<b>Investment Costs for Renovation Step</b> 20000 € <b>Included Costs for Maintenance</b> 10000 €
Benefits	<b>Name of incentives</b> KfW <b>Incentives</b> 50000 €	<b>Name of incentives</b> KfW <b>Incentives</b> 10000 €	<b>Name of incentives</b> KfW <b>Incentives</b> 10000 €	<b>Name of incentives</b> KfW <b>Incentives</b> 10000 €	<b>Name of incentives</b> KfW <b>Incentives</b> 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/>

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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





Individual Building Renovation Roadmaps




### Understanding potential user needs

A survey analysis of the markets for Individual Building Renovation Roadmaps in Bulgaria, Poland and Portugal

March 2018

[www.ibroad-project.eu](http://www.ibroad-project.eu)

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- **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

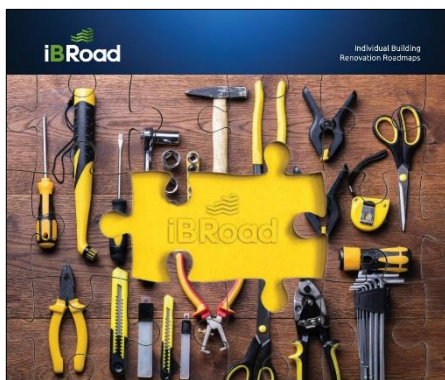
ADENE – Agência para a Energia  
November 2018

[www.ibroad-project.eu](http://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

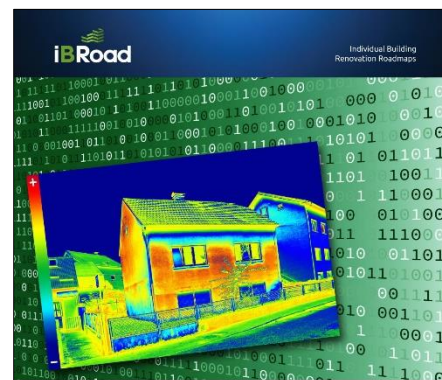
[www.ibroad-project.eu](http://www.ibroad-project.eu)  
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**Quantifying home renovation**  
Report and database for techno-economic default assessment of renovation measures

TU Wien – Technische Universität Wien  
November 2018


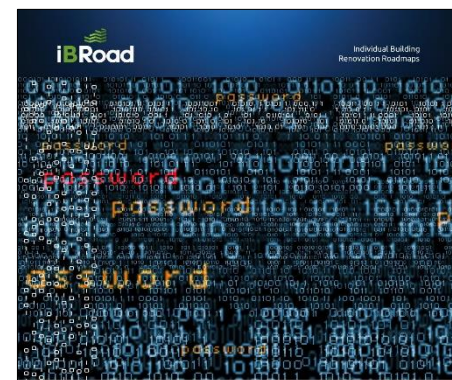
[www.ibroad-project.eu](http://www.ibroad-project.eu)  
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**Simple energy demand calculation tool**  
Open source programme code of techno-economic default assessment of renovation measures

TU Wien – Technische Universität Wien  
November 2018


[www.ibroad-project.eu](http://www.ibroad-project.eu)  
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**Database structure and programming core of the roadmap and logbook**

Blue Planet Academy & Consulting  
November 2018

[www.ibroad-project.eu](http://www.ibroad-project.eu)  
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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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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](http://www.ibroad-project.eu)

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Individual Building Renovation Roadmaps




## iBRoad training toolkit

Guidance for auditors in the iBRoad pilot countries

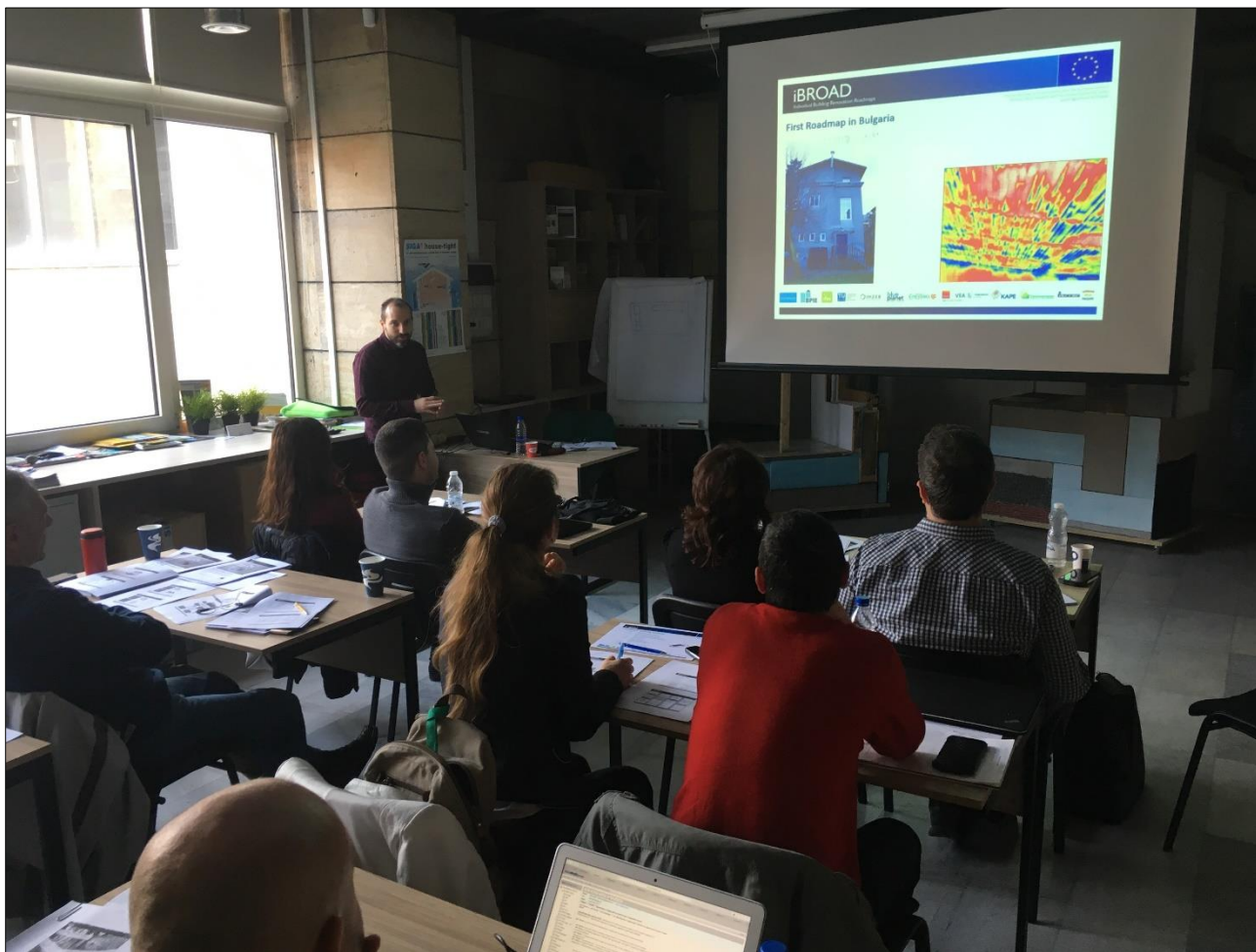
ifeu – Institut für Energie- und Umweltforschung Heidelberg  
March 2019

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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

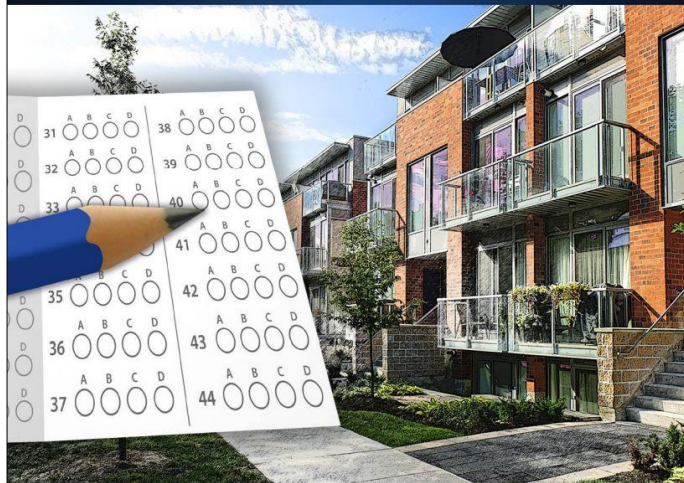
[www.ibroad-project.eu](http://www.ibroad-project.eu)

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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

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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


[www.ibroad-project.eu](http://www.ibroad-project.eu)



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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](http://www.ibroad-project.eu)




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D2T2 – DIRECT DRIVE TIDAL TURBINE

Innovation


Dublin, Ireland



IBROAD – INDIVIDUAL BUILDING (RENOVATION) ROADMAPS

Innovation

Athens, Greece



REMOTE - REMOTE AREA ENERGY SUPPLY WITH MULTIPLE OPTIONS FOR INTEGRATED HYDROGEN-BASED TECHNOLOGIES

Innovation

Torino, Italy

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# EUSEW Awards!

## After this webinar

- ✓ Please visit [www.ibroad-project.eu](http://www.ibroad-project.eu)
- ✓ To be informed about iBRoad developments, subscribe to our **News Alerts**.
- ✓ 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](mailto:contact@ibroad-project.eu) or the contact form on the website.
- ✓ Please vote iBRoad for the EUSEW Citizen's Award!  
[eusew.eu/awards-public-vote](http://eusew.eu/awards-public-vote)



# iBRoad

Individual Building Renovation Roadmaps

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## Thank you



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# 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**; [...]*

# Main concept

