Webinar
What did we learn from the field test?
Positive examples and further development of the iBRoad Renovation Roadmap and Logbook

Julia Lempik

ifeu – Institut für Energie- und Umweltforschung

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Pilot country	Energy auditors	Number of energy auditors' questionnaires evaluated	Number of home owners' questionnaires evaluated
Bulgaria	7	13	10
Poland	10	20	20
Portugal	10	15	20

Nearly **all buildings implement a renovation measure bevor** to reduce energy consumption in the previous years

Nearly all **Portuguese homeowners** have an **EPC**

Construction year of the buildings?
Bulgaria: 70 % of the buildings were built bevor 1970
Poland: 60 % of the buildings were built between 1970 and 1980
Portugal: 60 % of the buildings were built bevor 1970 and in the 1990s

Single-family houses

Statements on the Renovation Roadmap

To what extent do you agree with the following statement to the iBRoad Renovation Roadmap?

Legend: Completely agree, Tend to agree, I do not know, Tend to disagree, Completely disagree
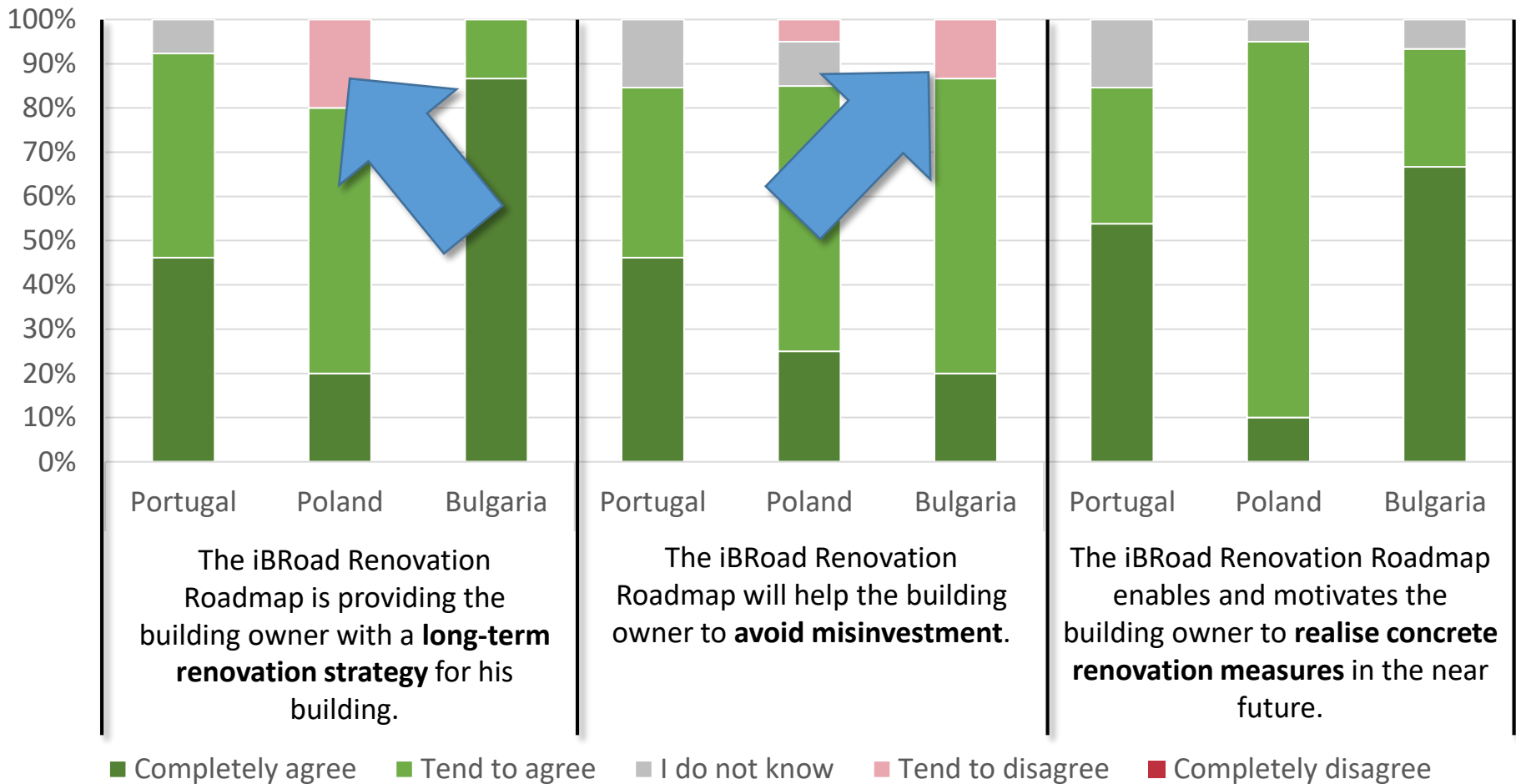
Statements on the iBRoad Logbook

To what extent do you agree with the following statements to the iBRoad Logbook?

It was **easy to navigate** through the iBRoad Logbook.

The iBRoad Logbook is providing the homeowner with a **long-term possibility** to **track** all building-related information.

The iBRoad Logbook enables and motivates the homeowner to **realise concrete renovation measures** in the near future.

- Completely agree
- Tend to agree
- I do not know
- Rather disagree
- Completely disagree

Recommendation Rate

Would you recommend the iBRoad tools to your colleagues?
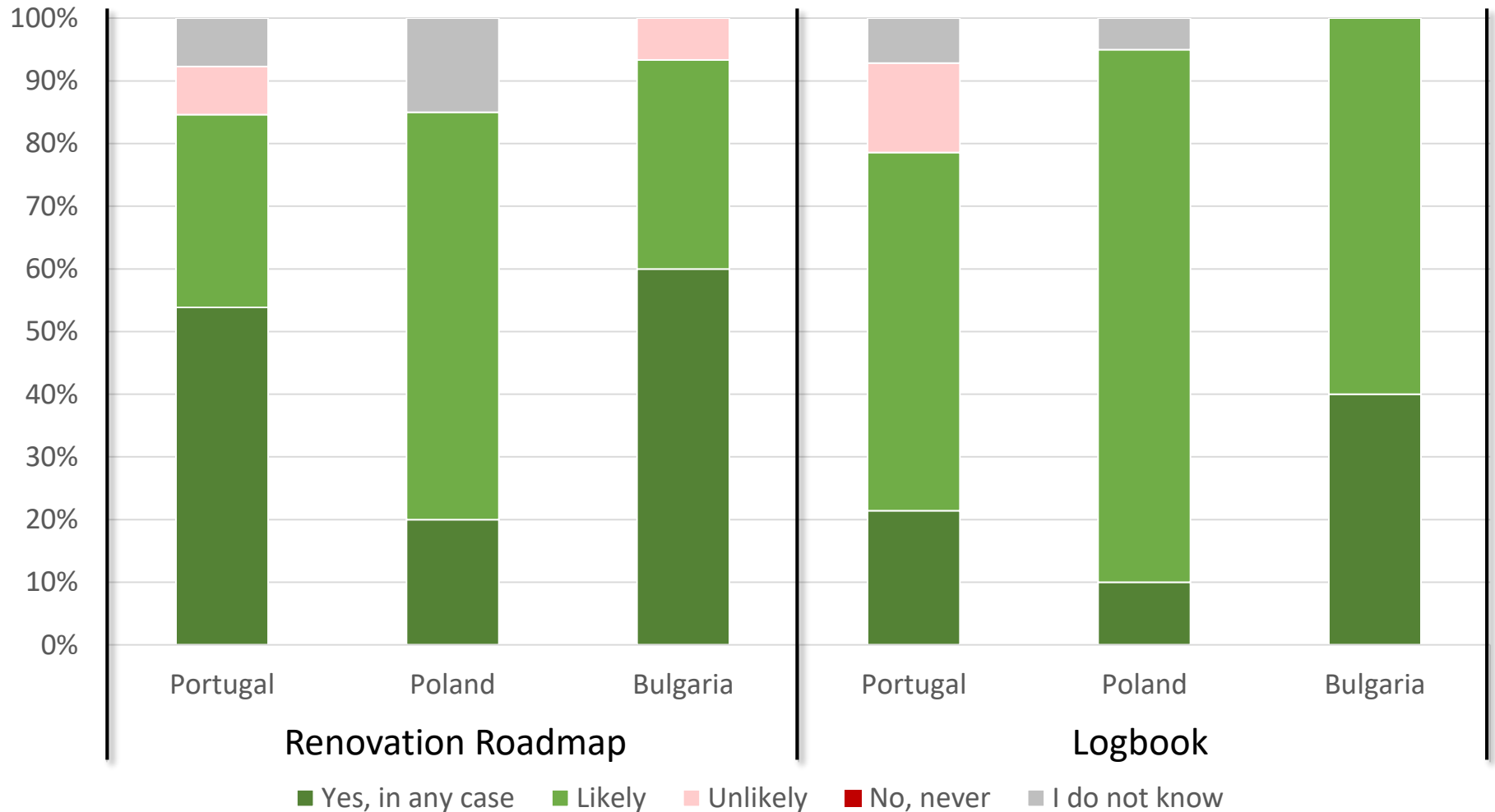
Renovation Roadmap

Logbook

Legend: ■ Yes, in any case ■ Likely ■ Unlikely ■ No, never ■ I do not know

Statements on the Renovation Roadmap

To what extent do you agree with the following statement to the iBRoad Renovation Roadmap?

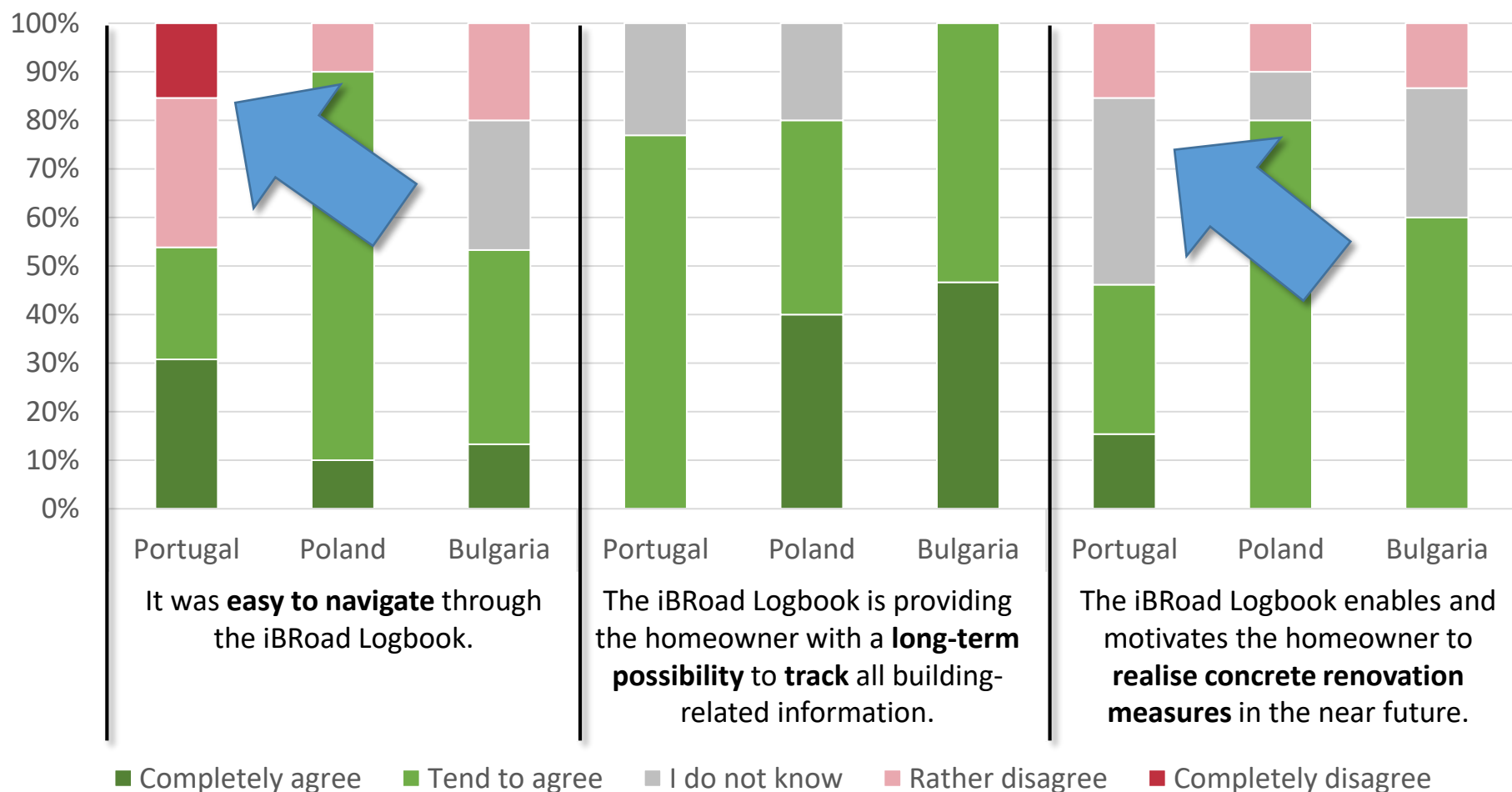The iBRoad Renovation Roadmap is providing me with a **long-term renovation strategy** for my building.

The iBRoad Renovation Roadmap will help me to **avoid misinvestment**.

The iBRoad Renovation Roadmap enables and motivates me to **realise concrete renovation measures** in the near future.

■ Completely agree   ■ Tend to agree   ■ I do not know   ■ Tend to disagree   ■ Completely disagree
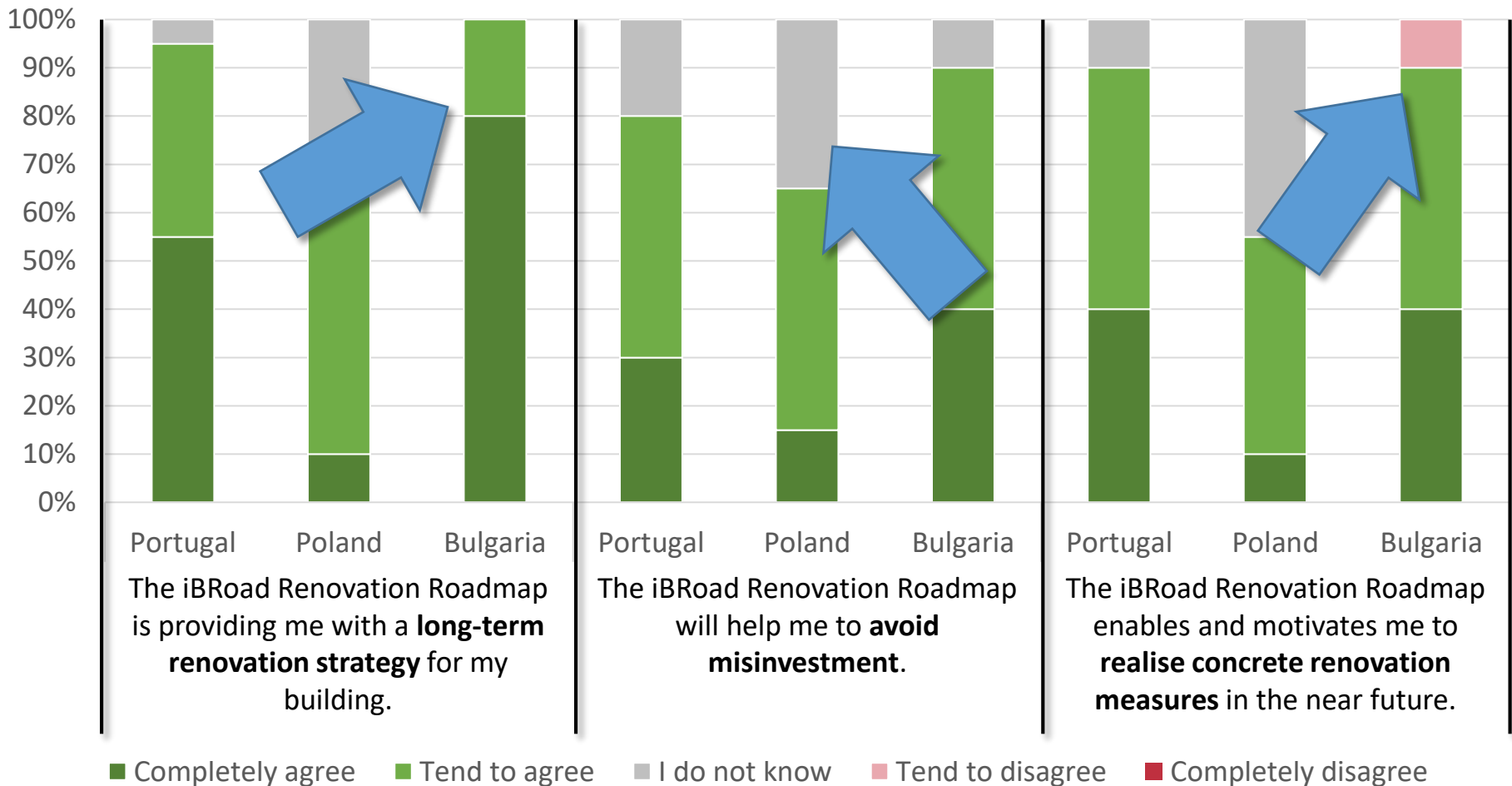
Statements on the Logbook

To what extent do you agree with the following statements related to the iBRoad Logbook?

It was easy to **navigate** through the iBRoad Logbook.

The iBRoad Logbook is providing me with a **long-term possibility** to **track** all my building-related information.

The iBRoad Logbook enables and motivates me to **realise concrete renovation measures** in the near future.

■ Completely agree   ■ Tend to agree   ■ I do not know   ■ Tend to disagree   ■ Completely disagree
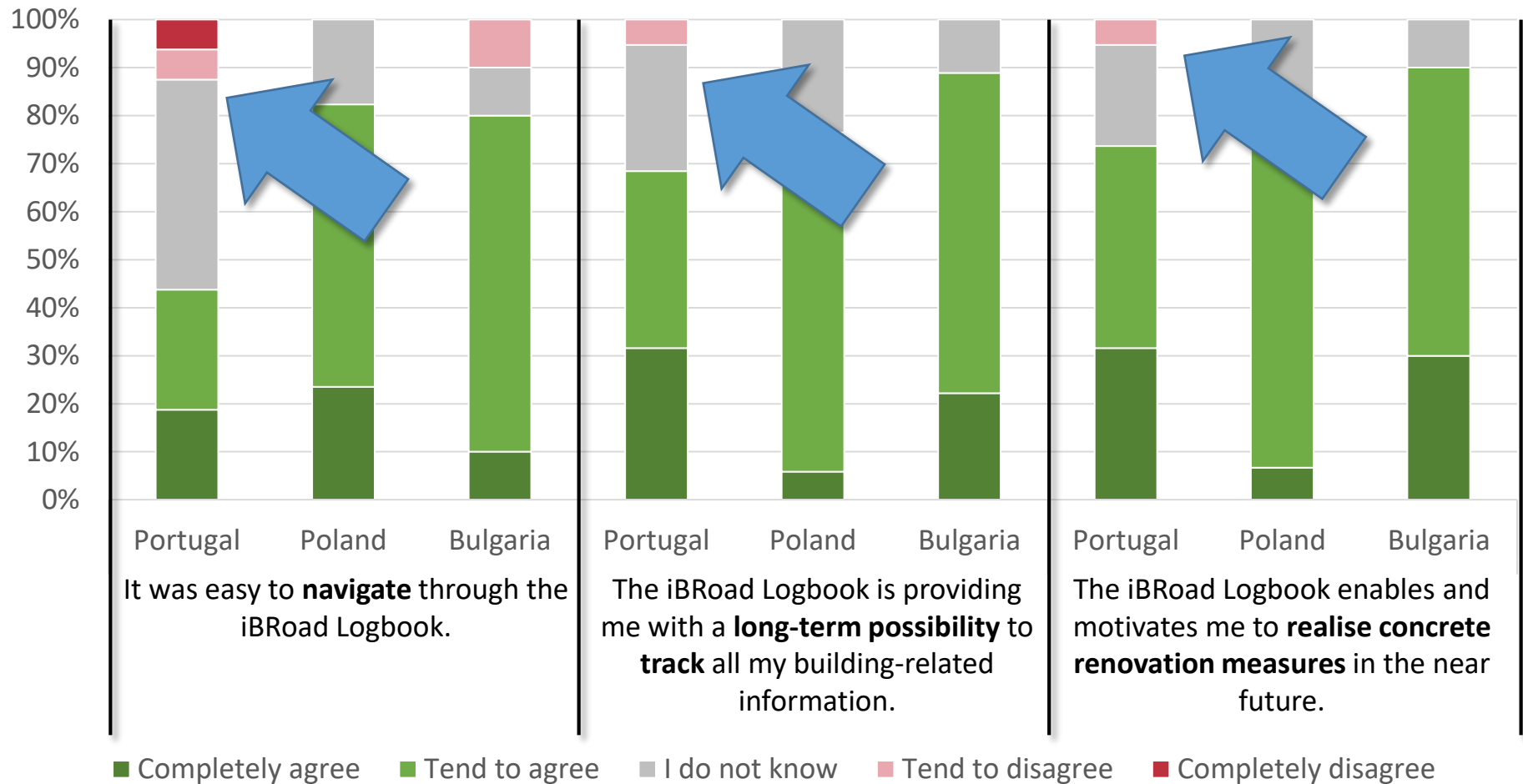
Recommendation Rate

Would you recommend the iBRoad tools to your family or friends?

Legend: ■ Yes, in any case ■ Likely ■ Unlikely ■ No, never ■ I do not know
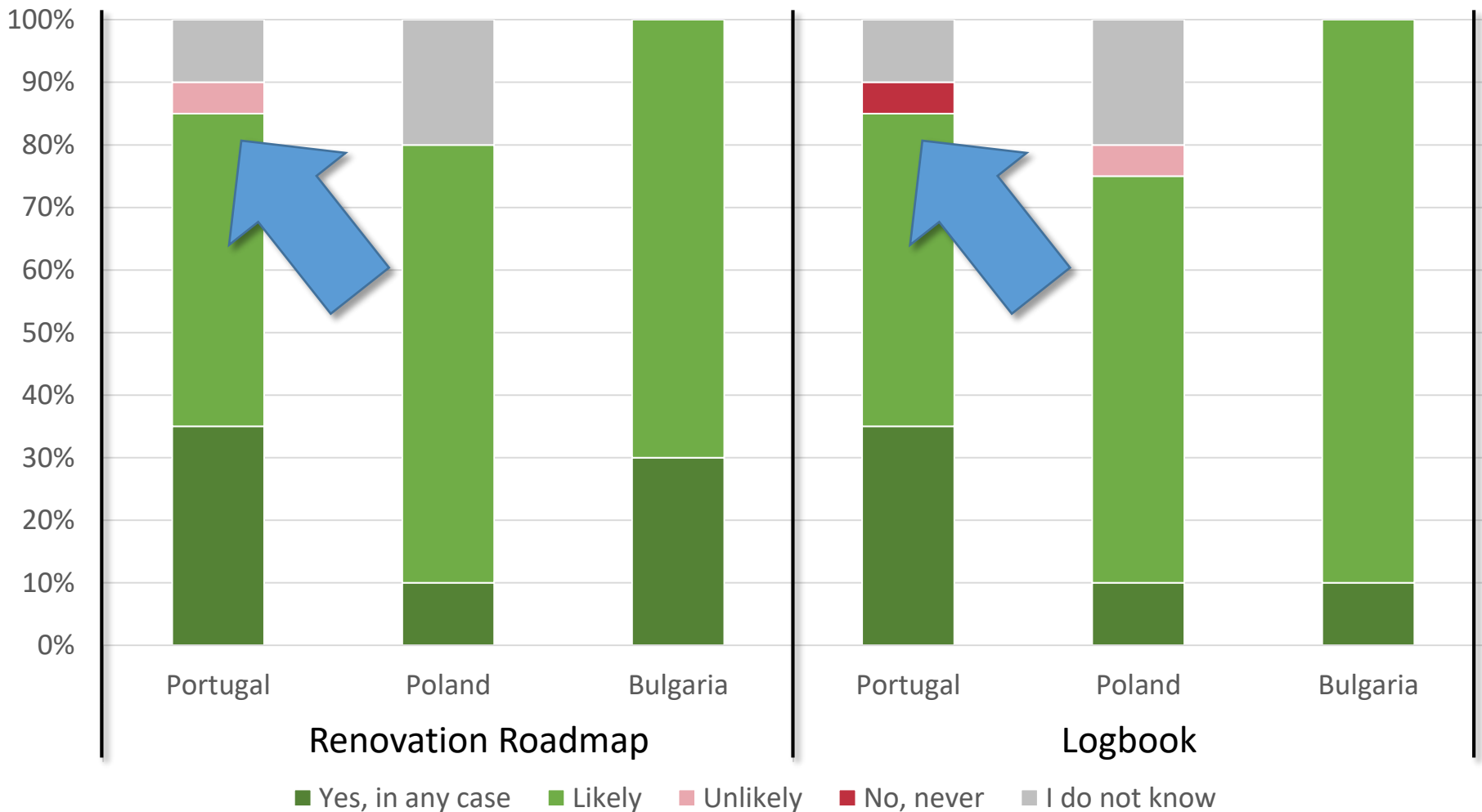
20 Portuguese Renovation Roadmap

Pilot country	No.	Year of construction	Number of renovation steps	Current energy level	Final / future energy level	Current primary energy demand [kWh/m²]	Future primary energy demand [kWh/m²]	Estimated date for final renovation step	Completeness
Portugal	1	1986	5	C	A+	183	74	2035-2040	complete
	2	1500	5	D	A+	155	48	2035-2040	complete
	3	1971	4	E	A+	183	0	When plaster needs renovation	complete
	4	1937	3	F	A+	600	27	2030-2035	complete
	5	2001	3	A	A+	30	0	When boiler is exchanged	complete
	6	1937	4	F	A+	600	19	2030-2035	complete
	7	1919	5	D	A+	356	120	2025-2030	complete
	8	1998	4	C	A+	116	0	When plaster needs renovation	complete
	9	1994	2	A+	A	145	112	2025-2030	parts missing
	10	2002	3	C	A	278	104	2030-2035	complete
	11	1575	4	D	A	319	42	2025-2030	complete
	12	1988	4	F	A+	423	117	When windows are exchanged	complete
	13	1998	5	E	B-	203	0	2025-2030	complete
	14	1972	4	D	B-	387	250	2025-2030	complete
	15	1995	3	C	A	176	19	2030-2035	parts missing
	16	1966	2	E	A	326	27	2025-2030	complete
	17	1946	4	F	A	350	92	2030-2035	-
	18	1989	5	D	A+	116	20	When plaster needs renovation	complete
	19	2001	5	E	A	192	19	When plaster needs renovation	complete
	20	1981	4	C	A	211	34	2025-2030	complete

Example Roadmap

iBRoad

SAMPLE PAGE | Pilot country: Portugal
Primary energy demand saving: 96 %
Estimated date for final renovation step: 2035 – 2040

Best-possible-principle

Step by Step Plan

ENERGY CLASS	ENERGY CLASS	ENERGY CLASS	ENERGY CLASS	ENERGY CLASS
F	**C**	**B-**	**A**	**A+**
TODAY	2020	WHEN WINDOWS NEED TO BE EXCHANGED	2025 – 2030	2030 – 2035
UILDING	RENOVATION STEP 1	RENOVATION STEP 2	RENOVATION STEP 3	RENOVATION STEP 4
	WHAT TO DO? · Isolamento térmico em paredes exteriores - aplicação pelo exterior com revestimento aplicado sobre o isolante. · Isolamento térmico de cobertura inclinada - aplicação nas vertentes sobre a estrutura resistente da cobertura inclinada	**WHAT TO DO?** · Substituição das caixilharias existentes por novos envidraçados com melhor desempenho energético.	**WHAT TO DO?** · Substitution of the heating system by a biomass boiler	**WHAT TO DO?** · Instalação de sistema solar térmico de circulação forçada.
	INVESTMENT COSTS 11700 €	INVESTMENT COSTS 6000 €	INVESTMENT COSTS 3500 €	INVESTMENT COSTS
	COS MAINT			
ENERGY BILL 6490 €/a	ENER 303			

Long-term perspective

Timing and sequencing

Individual renovation context

Current State
Your Building Today

Edificio

ENERGY CLASS	Building Data	User Influence on Energy	Technical Data
	Year of Construction of the Building	**Attendance Time**	**Renewable Energies**
	1937	Das 19h às 8.00h e fim de semana todo o dia	
	uilding Type	**Hot Water Use Habits**	**Year of Construction of the Heating System**
	e Family House	several persons take a shower daily	
	mber of Floors	**Ventilation Use Habits**	**Energy Bill**
	3	during heating period short airing daily	6490 €/a
	f Residential Units		
	1		
	Living Space Area		

Attractive and motivating

User Influence

Even your behaviour influen nergy use. Here are some pointers to lower your total energy use.

✓ Short and intensive ventilation: Tilted windows hardly provide fresh air, but they cool walls and rooms down. Correct intensive ventilation should be provided 2 to 3 times a day for about 4 to 5 minutes, with open windows and doors in all rooms. This ensures the necessary air exchange.

✓ Keep blinds and curtains closed: Keep blinds and curtains closed at night to prevent heat from escaping on cold nights.

✓ Insulate windows: If you insulate draughty windows afterwards, you avoid CO_2. The investment in sealing tape is worth it: you save a lot of heating costs.

✓ Costs for hot water: 12 % of the energy consumption is used just to heat water. This is clearly noticeable on your heating bill for central hot water preparation. Cold hand washing, showers instead of bathing and economy shower heads and perlators help to save hot water.

The Portuguese Renovation Roadmap envisages an improvement from efficiency class F to the best class A+ in four steps. As the building envelop needs refurbishment, the first step envisages insulation measures. When the boiler needs to be exchanged it is replaced by a biomass boiler. Energy costs drop by 88 per cent.

Results Overview

Logbook
How did the auditors work?

- Building information
- Comfort Levels & My document and plans
- Building diagnosis - Equipment

| Pilot countries | Number of building | Number of building states | Completeness | | | | Comfort levels | My docu-ments & plans | Building diagnosis | | |
			General & admin. info.	Building con-struction info.	Building energy perfor-mance	Building ope-ration and use			Overall Energie label	Enve-lope	Equip-ment
Poland	2	4	complete	complete	complete	complete	complete	-	-	complete	-
	3	2	partially	complete	complete	-	-	-	yellow	complete	-
	4	2	partially	complete	partially	-	-	-	medium orange	complete	-
	5	1	partially	complete	complete	partially	-	-	dark red	complete	complete
	6	1	partially	complete	complete	complete	-	-	dark red	complete	complete
	7	2	partially	complete	partially	partially	-	-	light green	complete	-
	8	2	partially	complete	partially	-	-	-	light green	complete	-
	9	2	partially	partially	partially	complete	-	upload	light green	complete	-
	10	4	partially	partially	partially	partially	-	-	-	complete	-
	11	1	complete	complete	complete	-	-	upload	light green	complete	partially
	12	1	complete	complete	-	-	-	upload	-	complete	-
	13	1	partially	partially	partially	complete	-	-	-	complete	-
	14	1	partially	complete	partially	complete	-	-	-	complete	-
	15	6	complete	complete	complete	complete	complete	upload	-	complete	partially
	16	7	complete	complete	complete	complete	complete	upload	-	complete	complete
	17	1	-	-	complete	-	complete	-	yellow	complete	-
	18	1	-	-	partially	-	complete	-	red	complete	-
	19	1	partially	complete	partially	complete	complete	upload	-	complete	complete
	20	1	partially	complete	partially	complete	complete	-	-	complete	complete

- Positive response

- Useful functionalities

- Homeowners are motivated by the iBRoad Renovation Roadmap and Logbook to carry out renovation measures on the building

Manageability

- The iBRoad tools and documents have to be translated to the respective languages

- Automated data transfer between national EPC software and the Logbook

- Improve the navigation within the tools

- Printable copy of the Renovation Roadmap
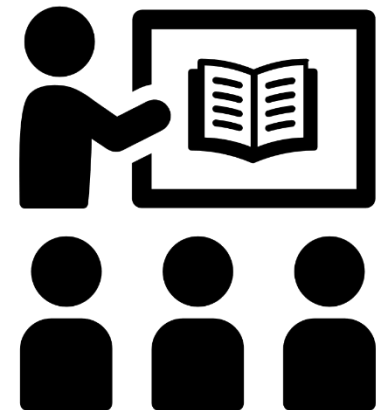
Content

- Some auditors required more flexibility, more space for comments and descriptions in free text

- Homeowners and auditors regarded a comparison of different variants in the Roadmap as useful
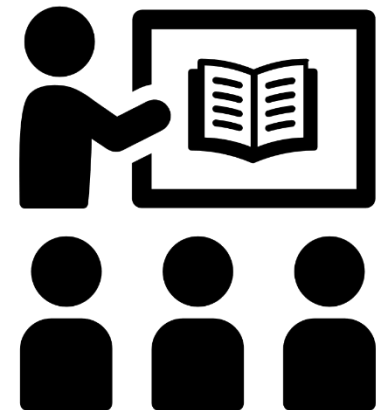
- Tool language: Tools are ready to be translated into different languages ✔

- Example: Auditors request an example of roadmap and logbook ✗

- Printable Roadmap: Auditors and homeowners wish for a hard copy of the Roadmap ✔

- Interface: Interface for data import from national calculation software to Logbook ✔ - also test in Portugal

- Navigation: Improve navigation in roadmap assistant and logbook ✗

Thank you very much

Julia Lempik

Julia.lempik@ifeu.de

+49.30.284 45 78-13