



iBRoad Stakeholders Meetings

Key Notes and Findings of 1st physical events round

INZEB

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1. Executive summary

The engagement of stakeholders during the development process of the iBRoad project is considered of high value since the beginning. Following the stakeholders' mapping procedure, a process that included the identification, the analysis, the visualisation and the prioritisation steps for each stakeholder, namely the levels of expertise, influence, involvement necessity and interest to the project, the first round of physical meetings took place during February and March 2018.

Specifically, the meetings with the national stakeholders took place in the chronological order presented in Table 1.

	Bulgaria	Tuesday 13 February 2018
	Germany	Thursday 22 February 2018
	Poland	Tuesday 6 March 2018
	Austria	Wednesday 7 March 2018
	Greece	Tuesday 13 March 2018
	Belgium	Wednesday 15 March 2018
	Romania	Tuesday 20 March 2018
	Portugal	Wednesday 22 March 2018

Table 1: iBRoad stakeholders' meetings in chronological order

The main aims of the first round of the stakeholders' meetings were: i) to introduce the iBRoad project concept and tools to be developed; ii) to identify iBRoad's replicability potential in each country as well as the interconnection with existing national tools and strategies; and iii) to discuss the potential adaptation process, the implementation barriers as well as the ways to overcome them. For this reason, particular attention was given to the invitation sent, so as to invite and engage stakeholders that represent all interested to iBRoad stakeholders' segments, namely: public authorities, regional and local authorities, business and engineering associations, consumer and building associations, think tanks, media, energy experts, research organisations and academia.

In this report - with the support and contribution of all project partners – we have captured and present the main findings of each meeting separately. Those findings will be taken into account during the development phase of iBRoad, to introduce tools that will be closer to the market needs.

2. Introduction

iBRoad is a project funded by the Horizon 2020 European programme, aimed at exploring, designing, developing and demonstrating the concept of individual Building Renovation Roadmaps. With the innovative approach proposed, the project aims to become a real driver for deep renovation. Representing an evolution of the Energy Performance Certificates (EPCs) and energy audit systems, building renovation roadmaps will serve as a tool outlining a customised renovation plan with a long-term horizon for the deep step-by-step renovation of individual buildings (iBRoad-Plan), combined with a repository of building-related information (logbook, iBRoad-Log).

iBRoad is a consumer-tailored project as it strongly supports building owners in step-by-step deep renovations, removing barriers and lock-in effects. For this reason and to adequately support the market focus that the project has, the early stage engagement of all stakeholders, who have an interest in building renovations, was foreseen. Informing and engaging the relevant stakeholders' segments and interested parties in all participating countries was among the primary goals. This was achieved through the organisation and implementation of the first round of physical meetings in Austria, Belgium, Bulgaria, Germany, Greece, Poland, Portugal and Romania.

Following the stakeholders' identification and prioritisation process, project partners invited stakeholders from different segments to participate to the meetings which had the form of roundtables, encouraging the interaction with both the meeting hosts and the other invitees. The stakeholders' meetings were designed to cover three main pillars.

- i. to introduce the iBRoad concept and tools that will be developed within the project period;
- ii. to identify the replicability potential in each country as well as the interconnection with existing national tools and strategies followed in each country;
- iii. to discuss the potential adoption and adaptation process, the implementation barriers in legislative, financing and capacity building areas, as well as the ways to overcome them, and contribute ideas and proposals for further dissemination.

In total, 114 stakeholders, coming from public national and local authorities, engineering and building associations, technical chambers and consumer associations, building material industry, finance institutions, academia, NGOs, think tanks and media, attended the meetings, providing their insights, input, ideas on how the project could be a benefit for the building owners and tenants. The stakeholders' input is considered to be valuable and will be used for further elaboration and consideration by the project partners.

This report presents the main findings of the stakeholders' meetings. In the first part of the report, a summary of the key insights and inputs is given, as received by the stakeholders, followed by the views of the partner organisation in each country. The second part presents, in the form of tables, the main concerns discussed regarding (a) the legislative framework, (b) financial matters, (c) capacity building, (d) the values for all involved parties, (e) the potential interaction with similar, existing or under development tools and (f) further dissemination activities and promotion ideas.

The findings of each meeting are presented in the next pages according to the date of meeting delivery.

3. Country factsheets

Bulgaria



In Bulgaria, the meeting which was attended by 20 stakeholders, started with presentations on European and national policies on buildings' energy efficiency, as well as the ABRACADABRA and iBRoad projects and their expected outcomes. Then, a discussion took place on the applicability of building renovation passports, the possible barriers in Bulgaria and the potential benefits of the project to stakeholders.

EnEffect views on iBRoad stakeholders' meeting in Bulgaria

by Dragomir Tzanev

"The iBRoad project is unique because of the fact that it tries to put an order in the otherwise quite chaotic process of renovation of the single-family building stock, which, non-surprisingly, in Bulgaria naturally undertakes the step-by-step approach due to the overspread lack of resources. It does so by applying another type of capital, profound professional knowledge, through which the shortcomings of the traditional retrofits – the well-known lock-in effect, limited energy and financial savings, and questionable aesthetic and health effects – are efficiently overcome. Thus, it builds upon a growing market, providing a reasonably priced professional service bringing significant quantifiable benefits for the end users.

Additionally, iBRoad has the potential to exercise a serious impact to policymaking in the common European surge to a decarbonised building stock, tackling the major barrier of engaging with the relatively small individual projects for single-family building retrofits. Especially in countries where the state support programmes prioritise measures in multifamily buildings, it is one of the few support tools at the disposal of individual owners. Thus, it covers a major gap in raising awareness for the benefits of a deep energy retrofit for this sector, showing potential to transform the project instrumentarium – renovation roadmaps and project logbook – into a major impetus for access to professional expertise and tailored advice for the building owners."

Stakeholders' meeting in Bulgaria: overview and main conclusions

In Bulgaria, single-family buildings are mostly outside the scope of the legal requirements for undergoing energy audits and therefore, market-based solutions need to be developed. There is a strong need to educate end-users, possibly via a web platform outlining benefits and financial aspects of typical retrofit solutions. Moreover, the value of professional expertise should be emphasised, to tackle the current norm of DIY renovations. During the meeting, it was stressed that the project should invest a lot in communication and involve business actors. Municipalities and local SMEs can play a leading role as communication agents and potential drivers of the market shift.

Germany



In Germany, the stakeholders' meeting, attended by 9 stakeholders, started with a brief presentation of the iBRoad project, and the stakeholders' engagement strategy. Then, a brainstorming session on the logbook's characteristics took place, followed by keynote speeches on the existing tools of Flanders (Belgium) and Germany. Finally, a discussion took place on the road to success for the iBRoad logbook and the integration of the building renovation passport in the German building renovation framework and current market conditions.

ifeu views on iBRoad stakeholders' meeting in Germany

by Peter Mellwig

"The stakeholders' workshop in Germany focused on the logbook only, as an individual building renovation roadmap was already implemented in June 2017. Almost all participants run an own building related online consulting tool. They reported on their experiences with the tools and expressed their ideas and expectations of the iBRoad logbook. One main issue was whether or not the data collected in the iBRoad logbook can be made accessible to third parties. This would be possible if data protection is considered in every respect. This would provide the opportunity to have a number of online tools collaborating to supply the homeowners with specific information. The collaborating online tools could use the data from the logbook to actively address homeowners and thus raise the awareness for both the iBRoad logbook and roadmap. During the workshop, the existing logbook in Flanders was also introduced to the attendants and raised a lot of interest, especially among the representatives of the federal government."

Stakeholders' meeting in Germany: overview and main conclusions

In Germany, there is a low demand for online building tools. However, the stakeholders agreed that interfaces are needed. During the brainstorming session, success indicators were identified. Some of these are the ease of communication, the autonomy of the user, the regular communication of events, the interfaces with the existing databases for funding and the access to third parties such as craftsmen, as well as sponsorship by companies. It was also suggested that the building renovation roadmap should be online-based, with an open data interface and local engagement. Since there are already various logbook approaches in the country, it is essential to establish a common data standard, similar to the "Open Immo" standard (<http://www.openimmo.de/>). What is more, calculation results should be provided electronically and free of charge by online tools with add-on capability and interfaces with the existing tools. It was suggested that customers would trust a public (official) tool much more than a private one. On the other hand, data input from building owners should be limited. Energy consultants should take full responsibility for handling the available data. In addition, data exchange should occur in two directions, namely (a) online building tool to the building renovation roadmap, and (b) building renovation roadmap to the online building tool. Finally, it was mentioned that focus on energy consumption and efficiency is important, keeping in mind the building owner or users and their individual needs.

Poland



The stakeholders' meeting in Poland took place in Warsaw on 06 March 2018. The meeting was attended by 17 stakeholders, including representatives from the Ministry of Investments and Development, energy efficiency experts and auditors, influencers and representatives of technical universities. Initially, presentations of the project and similar tools in partner countries were given and then a discussion followed concerning the applicability of iBRoad in Poland, the challenges and opportunities in terms of energy efficiency in buildings in the country.

KAPE views on iBRoad stakeholders' meeting in Poland

by Marcin Dłużewski

"The meeting in Poland was successful and rich in lively discussions about the iBRoad project. The stakeholders found the topic of the iBRoad project very interesting and relevant. Currently, in Poland, we are dealing with smog problems on a whole country scale, and we need a solution that will actually work. The logbook can point those areas which have the greatest potential in renovations and energy usage reduction. On the other hand, the renovation roadmap can show what needs to be done to reduce the amount of energy used. As a package of both tools, it is expected to be able to cause a significant reduction of the problem. Drawing conclusions from the implementation of the EPC system in Poland, it can be noticed that many people treat energy certificates as an unpleasant duty, which results in low quality of documents and lack of trust in this system. The logbook needs to focus on solving the problems mentioned above and show the value of the energy certificate to people who decide to issue one. The logbook should be mandatory and regulated, as the information that it will possess will be relevant not only for owners but also for local and national administrations for the purpose of potential subsidising programmes, statistics and strategies of regional development. It should be fully financed from national or European resources. The renovation roadmap, on the other hand, should depend upon the owners' will, as it is expensive and preparing it without the purpose of using would be a waste of money. For owners to be encouraged to have a roadmap, it should be simplified and well explained, so that everyone could understand the values and data included. The roadmap should be partially or fully financed by local, national or European resources to boost the number of renovations."

Stakeholders' meeting in Poland: overview and main conclusions

In Poland, it was stressed that the implementation of iBRoad should be pursued as soon as possible, to deal with the country's currently greatest problem, smog. But the idea of step by step modernisation seems to be unfortunate, as this approach may result in construction mistakes and it can be uncomfortable for the building owners, who would be in a state of constant renovation. Ensuring quality of construction is as important as scientific knowledge on renovation measures. A well-constructed subsidy programme could encourage people to start renovating their buildings. Regarding mistakes made in the past, the lessons learnt will be a useful input for this attempt to be successful. However, it was also mentioned that the actual implementation of the logbook and the renovation roadmap seems hard to achieve, as it would need special regulations and scale that should involve the country as a whole. Concerning the renovation steps, these should be designed by taking into account the country's thermomodernisation plans. Building owners should be educated in an approachable and precise manner, and that should be a priority. What was also underlined as necessary is that the logbook and renovation roadmap should be as simple as possible and the advantages should be visible. It was discussed that the adoption of the project should be considered on two levels: (a) individual buildings level and (b) country level. For the second level the implementation could be problematic and expensive, thus highlighting the need to identify the source of financing of such a plan. A critical view is that collecting all building information and documents in one place is perceived as positive by administration authorities who also feel confident that renovation roadmaps might boost energy efficiency modernisation in the country. Last but not least, focus on communication and dissemination is extremely important, due to the current living conditions of most people in Poland.

Austria



The Austrian stakeholders' meeting, which took place in Vienna on 07 March 2018, was attended by 6 stakeholders and was divided in two parts of presentations followed by one discussion round. In the first part, an introduction was made about the iBRoad project, stakeholder participation, logbook and individual roadmap concepts, including examples of practice - iSFP (individuelle Sanierungsfahrplan) and Woningpas. In the second part of the meeting, representatives from three different regions in Austria issued their statements concerning local practices, challenges and potentials for building renovation passports in Austria.

TU Wien views on iBRoad stakeholders' meeting in Austria

by Lukas Kranzl

"The federal system in Austria allows regions to have their systems for building renovation support and advice, which means that the nine federal regions have far-reaching autonomy concerning legislation and administration. During the stakeholders' meeting in Vienna, the three participating regions (Salzburg, Lower Austria and Vorarlberg) presented their different stages and approaches regarding Energy Performance Certificates (EPC) calculation tools, energy consulting practices, EPC database structure and others. While in Salzburg a similar concept as the iBRoad Logbook already exists, in Lower Austria and Vorarlberg there is a preference to use manually written protocols in energy consulting practice. Despite some differences, all three regions have standardised energy consulting practices, where protocols and questionnaires for the house visit and the interview with the house owner are followed. In respect to individual building renovation strategies, the three regions do not consider stepwise renovation in their main scope. However, as all three regions' main concern is on how to bridge the gap between the number of building renovation advice and the number of renovated houses, iBRoad could contribute to overcoming this gap. We believe that iBRoad has the potential to enrich the existing consultancy approaches, focusing on the soft skills of the energy consultant and their ability to convince the house owner to go ahead with the renovation of the house, by also considering the fact that stepwise renovation is a reality in practice."

Stakeholders' meeting in Austria: overview and main conclusions

The federal system in Austria allows regions to have their methods for building renovation support and advice, which means that to some extent, different approaches are adopted among the regions regarding EPC calculation tools, energy consulting practices, EPC database structure and others. Pilot projects of renovation coaching have already been carried out, to some extent, in two of the participating regions, although without a timeline for the proposed measures. During the meeting, it was stressed that renovation "coaches" should have interdisciplinary competencies like creativity, social skills, communication and others, to have the courage to propose paper-based solutions and measures that the building owners may initially not like. At the same time, they should not make them feel like being controlled while focusing not only on the technical aspects but also on issues like a family situation, environment, surroundings and future perception of the living situation. Even though the most frequently advised renovation strategy is the one-step renovation due to advantages regarding economic effectiveness and energy efficiency improvement, building owners will often opt for the step-wise renovation. Step-by-step renovations are not subsidised in Austria, but all regions involved in the meeting offer subsidies for renovation advice. Attendees stated that people do renovations as long as there are subsidies available. However, grants are currently only available for major renovations. Finally, there is still a significant gap between the number of building renovation or advice provided and the number of houses being renovated, due to barriers, especially on the user side.

Greece



In Greece, the stakeholders' meeting took place in Athens on 13 March 2018. The meeting was attended by 23 stakeholders, excluding the iBRoad team. The first part of the meeting included presentations of the iBRoad project, the Woningpas and Sanierungsfahrplan (Belgian and German paradigms), the ENERFUND tool, and a brief conversation on opportunities and challenges in Greece. During the second part of the meeting, key stakeholders expressed their views on the applicability of the iBRoad in Greece and a broad round table discussion took place.

INZEB views on iBRoad stakeholders' meeting in Greece

by Alice Corovessi

"The significant number of the Greek buildings in need of renovation can be the base for the adoption of tools like the ones developed by the iBRoad project. INZEB aims to promote the value of iBRoad, to widespread the benefits as derived from the outcomes of this project to all interested parties and to promote and help increase the renovation rates in Greece. Having a vast knowledge of the national market and the needs of the households, as well as excellent relations with the majority of the stakeholders' segments who understand the need for building renovations, we believe that our aim will be reached".

Stakeholders' meeting in Greece: overview and main conclusions

In Greece, it was stressed that, above all there is a need to convince the market of the tools' added value. Generally, it was mentioned that in Greece, there is a good will, but at the same time, energy efficiency targets are not sufficiently ambitious. Still, the iBRoad concepts/initiative seems compatible with the current institutional framework. Whether the renovation will be step by step or holistic was also broadly discussed. Specific barriers to step by step renovation were mentioned; one of them being the high pace of technological developments, which a step by step renovation may not be able to cater for in the way that the changes made first may be outdated by the time the final touches take place. Another issue is the financial capacity of the owners to undergo a renovation, as Greece still runs under austerity and a high poverty rate. The point of funding was also mentioned, though building owners are often hesitant because they see – in some cases - public financing as a tax in disguise. What is more, the availability of data was also discussed and in particular, whether the data will be obtained through existing files (e.g. through EPCs) or whether the energy inspectors and auditors will gather new and real-time information about the building. The lessons learnt from similar attempts in other European countries need to be taken into consideration to avoid repeating the same mistakes. The matter of disseminating information to the end users/ owners was underlined as of extreme importance, as there is a strong need to make sure that the energy inspectors and auditors inform the owners /end users effectively.

Belgium



The stakeholders' meeting in Belgium took place in Brussels, on 15 March 2018 with 10 participants. During the morning session, presentations on the iBRoad concepts, the German and Flemish examples and the stakeholders' engagement took place, as well as a general discussion with the participants. In the afternoon session, the tools for renovation in the Walloon Region, the vision of BMP/PMC (Belgische BouwMaterialen Producenten) on the renovation roadmap and the priorities for a successful implementation of the logbook and renovation roadmap were discussed.

VEA views on iBRoad stakeholders' meeting in Belgium

by Roel Vermeiren and Tine Vande Castele

"From the Flemish' perspective, we are happy to share our experiences while finalising the development of our building passport and our update for the Energy Performance Certificate (including made-to-measure deep renovation advice) that will be launched early 2019. The national and international exchange opportunities which iBRoad offers are key to the further optimisation and sharing of the various features of these central tools."

"The iBRoad project can ensure that the implementation of the 'renovation roadmap' and 'logbook' in different European countries and even in regions (as is the case in Belgium) can take place on a broader scale and be accelerated. This harmonisation process, the joint research and the involvement of stakeholders can increase support for these instruments."

Stakeholders' meeting in Belgium: overview and main conclusions

Initially, meeting participants raised concerns on whether the renovation roadmap should be mandatory in order to be used more frequently. In this case, compensation measures should be applied. Otherwise, incentives linking to other compulsory legislation measures or other tools/subsidies would be advisable. It was agreed that the Logbook should be free to use, but renovation advice should be paid, and these more significant financial incentives could be given to those with a renovation roadmap. The difference between public and private information should be clear, and information should be provided as clearly and just as possible - in a standardised manner - to ensure that everyone can understand. Technical details should be available for those who want to know more. The roadmap should allow for possible updates by the citizens and validation of data by the energy auditors in case of owner change. It should offer more than one realistic option (tracks): a fast/more expensive one and a slower alternative for those unable to perform ambitious measures integrated into a 5-year plan. The renovation advice should be technology neutral and offer price ranges including sustainability options and eco-friendly building materials. The tenants should be informed, so they can decide whether they want to rent a house or not, but the owners should be motivated as well, keeping in mind how citizens make decisions based on financial, emotional and social criteria. Finally, it was stressed that good communication of benefits is vital to encourage a collective approach and the idea of energy transition.

Romania



The stakeholders' meeting in Romania took place in Bucharest on 20 March 2018. The event was attended by 14 stakeholders, representatives of central public authorities, construction companies, building materials suppliers/manufacturers, relevant professional associations, representatives of research institutes and universities and other relevant organisations. The event was structured in two parts, the first involving presentations on the iBRoad project and the second a stakeholders' consultation session on the topic of utility, potential, replicability, and feasibility of the iBRoad approach and outcomes in Romania.

INCD URBAN-INCERC views on iBRoad stakeholders' meeting in Romania

by Horia Petran

"Starting from considering stakeholders as a real driver for a positive change, this workshop was the first Romanian consultation meeting organised in the framework of the project. It aimed at presenting the concept of "Individual Roadmap for the Renovation of Single-Family Housing" and active consultation regarding the coordination of the Romanian energy efficiency policies in buildings, aiming at supporting national actions regarding the energy renovation of the existing building stock."

Stakeholders' meeting in Romania: overview and main conclusions

In Romania, it was discussed that good practices from Germany and Belgium are an excellent starting point for the development of the iBRoad renovation passport. The experience of developing and implementing the building renovation roadmap and the building logbook can be extremely useful in establishing the framework for the implementation of a standard European system that encompasses both instruments in a concept that will subsequently replicate at the level of the EU countries. The involvement of central authorities in the dissemination of the project and the collaboration of different parties is essential for the success of its actions. It is also necessary to raise the level of ambition in setting clear and detailed quality and performance requirements, both in designing and executing the work. Disseminating the advantages of quality and energy efficiency in buildings is essential for the success of the project, but the education of end users needs to be done in a simple way. Finally, it was underlined that active monitoring (via an explicit consumption metering requirement and a normalisation procedure for measured values) is more reliable in assessing impact than EPC indicators.

Portugal



The meeting took place in Lisbon on March 22 of 2018, with the participation of 15 stakeholders, and consisted of two parts. The first part was related to the presentation of the iBRoad project and the necessity of the stakeholder's engagement, having also an engaging discussion with the stakeholders. The second part was fully dedicated to the implementation of iBRoad in Portugal, where high level stakeholders were invited to share their views.

ADENE views on iBRoad stakeholders' meeting in Portugal by Rui Fragoso

"Portugal, similar to other EU Member States, has an inefficient building stock which needs to be renovated to increase comfort, contribute to a decarbonised economy and to achieve the EU and the Paris agreement goals. In this context, the iBRoad project and its expected outcomes, and particularly the buildings renovation passport, are very much in-line with the future tendencies of the EU policies but also with the Portuguese scenario. Since 2007, Portugal implemented a building energy certification system, which allowed the evaluation of nearly 1,5 million buildings or dwellings and the identification of more than 2 million improvement measures that can lead to savings, for families, companies and the government, of up 800 million euros per year. ADENE is responsible for the Portuguese participation in the iBRoad project. Since the very beginning, all relevant stakeholders were identified and invited to participate and were given a chance to discuss the project during this first stakeholders' meeting. The Portuguese stakeholders are receptive and interested in the future developments of the project and expect to be part of its implementation, with a special concern about key aspects like training of experts, the implementation methodology and the link to the existing tools like for example the energy performance certificate. ADENE will continue to be fully engaged with the iBRoad project and the national stakeholders, to contribute to the real transformation of the building stock and to improve the living conditions of the Portuguese citizens".

Stakeholders' meeting in Portugal: overview and main conclusions

One of the main findings from the meeting in Portugal is that an adequate number of Portuguese consumers give high importance to buildings' energy efficiency not only when deciding to purchase a property but also by their willingness to finance the costs of the renovation works with their financial savings. On the other hand, the lack of financial support and in many cases the lack of knowledge about the financing schemes, have been identified and shared both by the public and private sectors as one of the barriers to refurbishment works, thus keeping the renovation rates low. Another element for keeping the renovation rate low is the high cost for the execution of recommendations measures for renovation works. Concerning the topics they would most like to have on the logbook, these would be respectively: (i) energy performance certificate; (ii) building's features; (iii) technical specifications and building floor plans. The main conclusion derived from the presentation delivered by the Direção Geral de Energia e Geologia is that the iBRoad approach is much welcomed by the public authority who will continue to support its implementation in the country.

4. Presentation of the main findings of the stakeholders' dialogue process

iBRoad is a consumer-tailored project as it strongly supports building owners in step-by-step deep renovations, removing barriers and lock-in effects. The adoption and adaptation process of the tools to be developed within the project period, cannot be the same for all countries since special conditions exist.

Even though the EU countries follow the same directives and norms, the national implementation differs from country to country. These differences concern the existing legislative framework of each country, the current funding and subsidies schemes, the needs in capacity building both for the building owners as well as the engineers and technical experts. Moreover, similar tools exist or may be under development process, while a few countries as Belgium and Germany already promote and use building renovation passports and logbooks. For this reason, examining possible links with these tools is important, in order to achieve higher recognition and positive impact.

Furthermore, the values of the use of tools as the ones to be developed by iBRoad – for all interested parties - should be recognised since this is a success indicator: the broader adoption and use of iBRoad tools.

The above issues were discussed with the participants of the meetings and the main concerns, input; ideas for promotion and disseminations are presented in the following pages.

Bulgaria

Public Concerns on Legislative Framework	<ul style="list-style-type: none"> ✘ Even though the regulatory system in Bulgaria is well developed, the project has to focus on developing market-based solutions, as single-family buildings are mostly outside the scope of the legal requirements for undergoing energy audits. ✘ The iBRoad project and tools to be developed seem to be very promising, but they have to be established at the individual level, possibly with the support of local authorities. ✘ There are no outstanding barriers to the implementation of the iBRoad concept in Bulgaria.
Public Concerns on Financial Aspects	<ul style="list-style-type: none"> ✘ The market for single-family houses is virtually non-existent, and enquiries for renovations are rare. ✘ Demand for professional services is non-existent, the intellectual labour is not valued, and most of the renovations in single-family buildings are DIY. ✘ Due to the demographic process, single-family buildings exist mostly in urban territories and close to the big cities.
Public Concerns on Capacity Aspects	<ul style="list-style-type: none"> ✘ There is a strong need to educate the end-users. Thus the development of a web platform, offering typical retrofit solutions with visualisation of the benefits and financial parameters can be an added value. ✘ The value of professional expertise should be emphasised, as it seems to be non –existence, so to tackle the current practice of DIY renovations.
Values for All Involved Parties	<ul style="list-style-type: none"> ✘ There is a strong need to educate end-users, possibly via a web platform outlining benefits and financial aspects of typical retrofit solutions. This can be accomplished via the tools to be developed within the iBRoad project.
Interaction with Existing/ Under Development Tools	<ul style="list-style-type: none"> ✘ Integration could be pursued with the information system of the Sustainable Energy Efficiency Agency and the system currently developed by Sofia. ✘ The organisation of one-stop-shop for in-depth energy renovation projects, providing of general guidance to renovation leading to more comprehensive paid services -including links to companies-, could be complementary to the iBRoad project and be part of an integrated approach.
Further dissemination etc. – ideas from stakeholders	<ul style="list-style-type: none"> ✘ The project will benefit a lot from communication involving business actors, as the competition from other non-reliable sources of information is high. ✘ Municipalities and local SMEs can play a leading role as communication agents and potential drivers of the market shift and therefore need to be engaged by projects as iBRoad.

Germany

Public Concerns on Legislative Framework	<ul style="list-style-type: none"> ✘ Data protection should play an essential role in the development of such tools. ✘ A primary concern is to respect the autonomy of the user.
Public Concerns on Financial Aspects	<ul style="list-style-type: none"> ✘ Online building tools providing advice on possible building renovations should be free of charge. ✘ Interfaces to existing funding and grant access to third parties (e.g. craftsmen) as desired will be considered success indicators. ✘ Consider sponsorship by companies.
Public Concerns on Capacity Aspects	<ul style="list-style-type: none"> ✘ Even though there is a low demand for online tools advising on building renovation, there is a need for more interfaces in the renovation market. ✘ Since there are already various logbook approaches, it is recommended to establish a common data standard, similar to the "Open Immo" standard (http://www.openimmo.de/). ✘ End users trust public (official) tools more than the private ones. ✘ Including intermediaries/multipliers, e.g. building societies as partners can enhance the use of building renovation tools. ✘ The building renovation roadmaps should be online-based, and there is a need for local engagement. ✘ Keeping always in mind the building owners or users and their individual needs.
Values for All Involved Parties	<ul style="list-style-type: none"> ✘ There is a need for qualitative online building renovation tools which integrate the expertise of energy consultants into the data input process. ✘ The tool could contribute individual, dynamic, automated, and decentralised information for the user ensuring privacy/trust with the owners.
Interaction with Existing/ Under Development Tools	<ul style="list-style-type: none"> ✘ The comprehensibility of the use and benefits of online building renovation tools should be guaranteed. An idea for adaptation could be the use through gamification. ✘ Focus on the communication principles within the existing roadmap. ✘ Provide add-on capability and interfaces in existing tools. ✘ Provide data exchange in two directions: online building tool to the building renovation roadmap and vice versa. Building owners should only take responsibility for the data input up to an absolute limit.
Further dissemination etc. – ideas from stakeholders	<ul style="list-style-type: none"> ✘ "Stay tuned" campaigns and regular communication events. ✘ Grant access to third parties as desired. ✘ Easy and understandable communication is a key element for success in building renovation tools.

Poland

Public Concerns on Legislative Framework	<ul style="list-style-type: none"> ✘ It is important to draw lessons from the current EPC system and to create special regulations at scale, involving the country as a whole. ✘ There is a need for improving the EPC system quality and removing the bureaucratic barrier. ✘ Something similar to the iBRoad already exists in Poland but on a smaller scale. ✘ It is essential to create the position of advisor/guardian that could assist in the adoption of the proposed processes. ✘ Administration authorities feel positive about the project and its outcomes.
Public Concerns on Financial Aspects	<ul style="list-style-type: none"> ✘ A well-constructed subsidy programme is needed in Poland, and it is important to distribute the assets to all involved parties equitably. ✘ Implementation at country scale may be expensive. ✘ It is crucial to define the source of financing for the adoption of such tools. ✘ The Logbook has to be subsidised and must be obligatory. ✘ The preparation of documents related to building renovation passports must be financed wholly or partially from external assets. ✘ The market is hard to reach with programmes and subsidies.
Public Concerns on Capacity Aspects	<ul style="list-style-type: none"> ✘ Simplifying energy calculations, to make the process quicker is necessary. ✘ Supporting building owners with clear and approachable guidance is necessary. The logbook and renovation roadmap should be as simple as can be to ensure success and positive impact. ✘ The project needs to consider a long-range approach. ✘ Implementing the project on country scale will be challenging.
Values for All Involved Parties	<ul style="list-style-type: none"> ✘ The iBRoad tools could enhance the quality of construction works. ✘ The iBRoad tools point to renovation steps that will allow lower energy usage. ✘ The data included in the Logbook would be a good source of information about residential buildings in Poland. ✘ Because of the potentially high cost of the documents to be produced with the iBRoad tools, building owners will understand and will appreciate the value of the documents.
Interaction with Existing/ Under Development Tools	<ul style="list-style-type: none"> ✘ Software producers possess the necessary tools to support modernisations, and those tools could be useful in an iBRoad project. Producers are willing to adjust their software for the project. Moreover, the addition of a helpdesk could support building owners and end users with the right knowledge.
Further dissemination etc. – ideas from stakeholders	<ul style="list-style-type: none"> ✘ Focussing on communication and outreach is imperative. People in Poland live in adverse conditions; it is necessary to take action to improve the current situation. ✘ Potential logbook and roadmap users must be encouraged to participate.

Austria

Public Concerns on Legislative Framework	<ul style="list-style-type: none"> ✘ The federal system in Austria allows regions to have their own methods for building renovation support and advice, which means that to some extent, different approaches have been adopted among the regions regarding EPC calculation tools, energy consulting practices, EPC database structure and others. ✘ EPC-Database is not available in all provinces.
Public Concerns on Financial Aspects	<ul style="list-style-type: none"> ✘ Step-by-step renovations are not subsidised in Austria, but all regions involved in the meeting offer subsidies for renovation advice. ✘ There is a limited willingness from customers to pay for energy consultancy inspections - people do renovations as long as there are subsidies available. ✘ There is still a significant gap between the number of building renovation consultations and the number of houses that are eventually renovated.
Public Concerns on Capacity Aspects	<ul style="list-style-type: none"> ✘ The preferred renovation strategy is the one-step renovation, due to advantages regarding economic effectiveness and energy efficiency improvements. Stepwise renovation falls out of scope of energy consultancy. However, building owners will often opt for the step-wise renovation.
Values for All Involved Parties	<ul style="list-style-type: none"> ✘ Individual building renovation roadmaps effectively coordinate the step-wise renovation measures to avoid lock-in effects. ✘ Energy auditors should have interdisciplinary competencies like creativity, social skills, communication and others. ✘ The “renovation coach” should not only focus on the building standard but also look at aspects like family situation, environment, surroundings and future perception of the living situation and have the courage to propose measures the building owners may initially not like. ✘ Working closely with the “renovation coach”, building owners feel that they are in control of the process.
Interaction with Existing/ Under Development Tools	<ul style="list-style-type: none"> ✘ Each province uses different software to calculate EPCs, and some of them are working on integration between EPC calculation software and other energy consultancy tools.
Further dissemination etc. – ideas from stakeholders	n/a

Greece

Public Concerns on Legislative Framework	<ul style="list-style-type: none"> ✘ There is a unclear situation with the current Greek Regulation on Energy Performance of Buildings; Greek legislation should be changed and adapted to keep pace with the EPBD. Moreover and within this framework, it is important to redefine the national definition of deep renovation. iBRoad project seems to be compatible with the current institutional framework, although there is a need to ensure the applicability of the procedure in Greece. ✘ There is a need for tools as the building renovation roadmap. The iBRoad tools to be developed, could be compatible with the requirements of KENAK which is the national tool and enhance its use.
Public Concerns on Financial Aspects	<ul style="list-style-type: none"> ✘ Under the current economic crisis circumstances in Greece, building owners will rarely consider undertaking costs related to buildings and renovation. ✘ Deep renovation –among others- means that a certain capital has to be made available. Who and under which conditions will provide this financing is a critical issue.
Public Concerns on Capacity Aspects	<ul style="list-style-type: none"> ✘ iBRoad can be a good starting point for building renovations in Greece, but the human factor must be taken into account. New tools should be user friendly and easy to understand by all involved parties ✘ It is important to monitor if all parties can collaborate on the adoption and adaptation of such tools. As soon as the market embraces the Building Renovation Passports, the problems to be addressed for the national adaptation will be shown. ✘ By integrating this process into existing ones and create a new service, an EPC+ for example, a question arises: if the market can support both the existing Electronic Identity of Buildings and the Building Renovation Passports. ✘ There are reservations that this tool can create a technical lock-in by postponing/transferring a problem to the next owner/tenant.
Values for All Involved Parties	<ul style="list-style-type: none"> ✘ The inclusion of a timeframe of possible interventions is an excellent addition to the EPC while the data may indicate trends in the market that will help in the organisation and promotion of ESCOs. ✘ iBRoad would increase the efficiency of interventions, by including all information on what has been done and presenting future milestones. ✘ The achievement of risk reduction will also increase real-estate values. ✘ The ability of parameterisation is essential, providing sufficient information for a new user to fully understand what is happening to the recently bought or rented building. ✘ If properly designed, and to achieve economies of scale, this work could add to the motivation of engineers to provide high-quality services and improve their earnings. ✘ Step-by-step renovation helps the owner of the building to cope with the financial burden it poses. ✘ The owner's prior knowledge of the recommended chronological order of interventions, makes their financing easier, either privately or by Public-Private Partnerships.
Interaction with Existing/ Under Development Tools	<ul style="list-style-type: none"> ✘ It is important to create synergies and interoperability between different tools, existing national ones and under development as the ones to be developed by iBRoad, and making them available to the market, is a good starting point for Greece. ✘ A well-informing and high-quality tool can find its place in Greece, even without an official “stamp” and enforcement process
Further dissemination etc. – ideas from stakeholders	<ul style="list-style-type: none"> ✘ Homeowners need to realise the essence of all these energy-saving measures. Thus more campaigns are required. ✘ There is interest from the technical world for new and efficient tools, but the aim is to reach the final consumers; thus further dissemination and awareness raising is needed.

Belgium

Public Concerns on Legislative Framework	<ul style="list-style-type: none"> ✘ The primary concern is whether the roadmap should be mandatory or optional. Being mandatory is a good option; otherwise, it will not be used frequently. ✘ Encouraging the use of the roadmap, even if it is optional, is vital to make links with mandatory legislation (e.g. application of building permits in the dwelling passport). ✘ The standardisation of the tool could be a good idea. It can be followed by including the iBROAD-tools in a law.
Public Concerns on Financial Aspects	<ul style="list-style-type: none"> ✘ The logbook should be free to use, but renovation advice should be paid. ✘ Higher financial incentives could be given to those end users/ building owners who have a renovation roadmap. ✘ Financial incentives have to be determined by the public authorities. ✘ Renovation roadmaps should be used as a reference to granting energy premiums. Ensuring a link with energy premiums is the most effective measure for enhancing the adoption of roadmaps. ✘ Sustainable and ecological building materials should be included with price ranges.
Public Concerns on Capacity Aspects	<ul style="list-style-type: none"> ✘ The roadmap should allow for possible updates by the citizens and validation of data by the energy auditors in case of owner change. ✘ The roadmap should offer more than one realistic option (tracks): a fast/more expensive one and a slower alternative for those unable to perform ambitious measures. People want to be able to choose. ✘ Renovation advice should be technology neutral; it is essential to keep the necessary information clear and simple for everyone. ✘ Providing more technical information for those who want to know more is a good option. ✘ Make the data available in a central library since the re-use of data is an essential factor.
Values for All Involved Parties	<ul style="list-style-type: none"> ✘ Increased info offered to tenants. Citizens are able to make choices based on a set of criteria covering technical, financial, social and emotional approaches. ✘ Renovation roadmaps are more than about energy-efficiency, they also concern other aspects such as housing quality and environment. ✘ The renovation plan can provide information that is identical for everyone.
Interaction with Existing/ Under Development Tools	<ul style="list-style-type: none"> ✘ Links with existing subsidies could encourage the use of the roadmap.
Further dissemination etc. – ideas from stakeholders	<ul style="list-style-type: none"> ✘ Good communication of benefits is vital to encourage a collective approach towards energy transition. ✘ Communicating the long-term strategy and long-term and mid-term energy goals will help building owners or tenants to better understand the renovation advice and help achieve the above objectives.

Romania

Public Concerns on Legislative Framework	<ul style="list-style-type: none"> ✘ The involvement of central authorities in the practical use of the results of these initiatives should be enforced. ✘ An important factor is to improve the regulatory framework for the energy performance of buildings, by setting minimum energy performance requirements, raising the level of ambition for performance indicators (to reach the nZEB levels), and by detailing aspects of energy performance. ✘ iBRoad must be adapted to Romania's socio-economic conditions, which are different from those typical of other European countries, e.g. Germany or Belgium). ✘ Data security and the protection of personal information are of particular importance and must be approached with appropriate care and solutions both for the development of the roadmaps and electronic register system of the building
Public Concerns on Financial Aspects	<ul style="list-style-type: none"> ✘ The programmes for increasing the energy performance of publicly funded buildings have generally been implemented and monitored with the aim of ensuring the correct implementation of the financing amount rather than the actual impact on the level of the work carried out regarding performance. The flexibility of funding instruments is needed to allow for an increase in the energy performance level. ✘ The funds available for the energy renovation of existing buildings should be used to attract private funds to multiply the effects. ✘ Stimulate the mobilisation of private funding sources by completing the programmes implemented and monitored by an intense awareness campaign on the effects achieved through renovation ✘ Effective communication is needed to change attitude/thinking regarding global costs over the service life of the building instead of initial investment costs. ✘ Promote the iBRoad instruments to the banks that develop and implement energy loan programs.
Public Concerns on Capacity Aspects	<ul style="list-style-type: none"> ✘ The iBRoad tools should include an assessment of measures to improve the energy performance of the building and of living conditions. ✘ Lack of collaboration among the main societal actors regarding the coordination of actions related to the efficient promotion of the increase of the energy performance of the building stock and the reduction of the negative environmental impact of the buildings sector. ✘ Need to raise the level of ambition in setting clear and detailed quality and performance requirements, both in design and execution of works. ✘ Explicit consumption metering requirement and a normalisation procedure for measured values.
Values for All Involved Parties	<ul style="list-style-type: none"> ✘ Increased indoor comfort and the quality of the living environment, followed by lower energy bill and reduced emissions of greenhouse gases. ✘ Standardisation can play an essential role in the development of the iBRoad instrument, with the possibility of developing standardisation documents at a national or European level for methodological and procedural uniformity in the application of the concept in practice.
Interaction with Existing/ Under Development Tools	<ul style="list-style-type: none"> ✘ ENERFUND is a handy tool, based on a set of parameters displayed on a map shown during the presentation. The possible correlation with iBRoad should be discussed.
Further dissemination etc. – ideas from stakeholders	<ul style="list-style-type: none"> ✘ Building owners' awareness is the key to the success of such tools. The involvement of central authorities in the practical use of the results of these initiatives should be enforced, channelling information on outcomes and concepts developed to serve the Romanian market. ✘ The advantages of quality and energy efficiency in buildings need to be explained by specialists by using a common language (simple and directed to non-specialists). ✘ A communication programme could and should be developed at the national level for broader dissemination. A concrete communication measure is to create short movies (spots) to promote energy efficiency financing solutions in buildings.

Portugal

Public Concerns on Legislative Framework	<ul style="list-style-type: none"> ✘ The primary concern is who will be in charge of the logbook (database) and how it will be handled in case of checking non-conformities on the logbook.
Public Concerns on Financial Aspects	<ul style="list-style-type: none"> ✘ The lack of financial support, the lack of knowledge about them, and the high costs for the execution of recommendations measures for renovation are the main barriers to building renovations.
Public Concerns on Capacity Aspects	<ul style="list-style-type: none"> ✘ The primary concern was how different the methodologies for calculation process (recommendations measures) could be from the existing ones on the energy certification of buildings. ✘ National Authorities, energy sector business, and energy sector engineers have concerns about the training to be offered through the project, since they do not understand the need. Nevertheless, the information to be provided by the project in the next stages, will be helpful to understand the necessity.
Values for All Involved Parties	<ul style="list-style-type: none"> ✘ This new approach proposed by iBRoad could be a good strategy for the renovation of the residential buildings sector in Portugal. iBRoad brings the opportunity for creating the logbook and the possibility to have an individual renovation roadmap, which could include the need and preferences of the building users. ✘ With the consideration of potential health and well-being benefits for the tenants living in the renovated buildings, the added value will become significant. ✘ Better quality of the information to address to the consumers.
Interaction with Existing/ Under Development Tools	<ul style="list-style-type: none"> ✘ There are concerns about the methodologies for the calculation processes to be used, specifically on the differences with the existing calculation processes, used for the EPCs.
Further dissemination etc. – ideas from stakeholders	<ul style="list-style-type: none"> ✘ Motivating building owners in regards to the benefits of building renovation can bring attention to the iBRoad outcomes. ✘ Involve more the local authorities due to their influence and link to the local consumers.

5. Conclusions and next steps

The findings of the stakeholders' meetings delivered in the eight countries are a valuable and supporting tool to the iBRoad team. It is promising that the input received has many similarities despite the fact that the stakeholders are located in eight different countries. The similarities concern the need for consumer awareness raising regarding the benefits arising from building renovations, the enhancement of the funding tools and schemes for building improvements and deep renovation, and the linkage with existing tools especially for those countries which have already developed and launched similar tools, i.e., Belgium and Germany. What is encouraging and promising at the same time, is that stakeholders are in favour of supporting the tools to be developed by iBRoad and they are confident that there are no strong barriers in order to link the iBRoad-tools with the national legislative frameworks.

The input and insights as well as the ideas discussed with the stakeholders in all countries where the meetings took place, will be analysed by the iBRoad team and will be taken into account during the iBRoad development, in order to maximise both the impact and the market acceptance of the project.

The next steps, as already foreseen, is the launch of the stakeholders' forum, where discussions on various topics will take place, addressing among others the concerns raised by stakeholders, such as the ones on national legislative frameworks and how the iBRoad can be linked with them, the concerns on financial aspects such as the enhancement of subsidy programmes for building renovations, the concerns on capacity building aspects and how the market and end users can benefit in a maximum way, and the interaction with existing and under development tools. The ideas provided by the stakeholders for maximising the dissemination results will be also taken into account and discussed between the iBRoad team. Some of the above concerns will be also incorporated in the context of the four webinars to be delivered in the next period which have been foreseen at the iBRoad work programme. The context and the content of the webinars will be discussed and decided by all partners.

The first round of stakeholders' meetings constitute a good base for further and more efficient engagement and interaction with the national stakeholders since it was clear that tools that support and potentially increase the renovation rates in Europe are welcome.



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