

DESCRIPTION OF THE ACTION (PART A

COVER PAGE

Part A of the Description of the Action (DoA) must be completed directly on the Portal Grant Preparation screens.

PROJECT	
<i>Grant Preparation (General Information screen) — Enter the info.</i>	
Project number:	101120194
Project name:	Effective implementation of the EPBD in line with short-term and long-term policy requirements
Project acronym:	LIFE22-CET-EPBD.wise
Call:	LIFE-2022-CET
Topic:	LIFE-2022-CET-POLICY
Type of action:	LIFE-PJG
Service:	CINEA/D/01
Project starting date:	fixed date: 1 October 2023
Project duration:	60 months

TABLE OF CONTENTS

Project summary	3
List of participants	3
List of work packages	5
Staff effort	18
List of deliverables	19
List of milestones (outputs/outcomes)	29
List of critical risks	30

PROJECT SUMMARY

Project summary

Grant Preparation (General Information screen) — Provide an overall description of your project (including context and overall objectives, planned activities and main achievements, and expected results and impacts (on target groups, change procedures, capacities, innovation etc)). This summary should give readers a clear idea of what your project is about.

Use the project summary from your proposal.

Energy and climate targets require a radical increase in efforts for implementing and strengthening policies in the building sector. The proposal for a revised EPBD introduced several elements to reach these goals e.g., zero-emission buildings (ZEB), national building renovation plans (NBRP), minimum energy performance standards (MEPS). Other instruments are strengthened: building renovation passports (BRP) and energy performance certificates (EPC). Recent developments (gas/energy/economic crises) have triggered short-term actions and objectives, leaving Member States (MS) with the challenging task to find solutions to implement them all at once and avoid lock-in effects. The project will achieve three objectives:

- 1) Support public authorities in six MS (focus countries) in the design, implementation and evaluation of instruments (re-) defined in the proposal of the EPBD (ZEB, NBRP, MEPS, BRPs, EPCs)
 - 2) Adopt a consistent approach for the implementation of building policies stemming from the EPBD recast and use synergies with Fitfor55 and other EU strategies
 - 3) Build a replicable model to support the implementation of EU legislation by closely engaging with CA-EPBD, network agencies, and national partners of the Renovate Europe Campaign as well as policy makers and stakeholders.
- We will analyse national examples, provide support and technical advice and develop tailored policy packages and tools adapted to the specific needs of focus countries. These will include guidelines on how to design policies and instruments, measure their effectiveness (monitoring, reporting and policy evaluation) and adjust to EU and national needs and objectives. The project will establish an intensive stakeholder engagement in focus countries, including policy fora and bilateral exchanges with implementing bodies. Selected activities and results will be provided to focus countries;

LIST OF PARTICIPANTS

PARTICIPANTS

Grant Preparation (Beneficiaries screen) — Enter the info.

Number	Role	Short name	Legal name	Country	PIC
1	COO	TU WIEN	TECHNISCHE UNIVERSITAET WIEN	AT	999979888
2	BEN	E-THINK	ZENTRUM FUR ENERGIEWIRTSCHAFT UND UMWELT (E-THINK)	AT	924030149
3	BEN	SERA	SERA GLOBAL GMBH	AT	898719454
4	BEN	ADENE	ADENE - AGENCIA PARA A ENERGIA	PT	950873638
5	BEN	BPIE	BUILDINGS PERFORMANCE INSTITUTE EUROPE ASBL	BE	966732459
6	BEN	ENEA	AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE	IT	999988521
7	BEN	EMI	EMI EPITESUGYI MINOSEGELLENORZO INNOVACIOS NONPROFIT KFT	HU	998707636
8	BEN	EuroACE	EUROACE - EUROPEAN ALLIANCE OF	BE	938748250

PARTICIPANTS*Grant Preparation (Beneficiaries screen) — Enter the info.*

Number	Role	Short name	Legal name	Country	PIC
			COMPANIES FOR ENERGY EFFICIENCY IN BUILDINGS		
9	BEN	HMRSC	INTERNATIONAL NON-GOVERNEMENT ORGANIZATION HOUSING AND MUNICIPAL REFORM SUPPORT CENTRE	UA	898223978

LIST OF WORK PACKAGES

Work packages						
<i>Grant Preparation (Work Packages screen) — Enter the info.</i>						
Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
WP1	Project Management and Coordination	1 - TU WIEN	24.00	1	33	D1.1 – Data Management Plan D1.2 – Technical Progress Report D1.3 – Extract of the project data from the LIFE KPI webtool D1.4 – Updated extract of the project data from the LIFE KPI webtool
WP2	Target Setting and Planning (ZEB and NBRP)	1 - TU WIEN	36.00	1	30	D2.1 – Policy Needs and Status Quo regarding Long-Term Target Setting D2.2 – Development of NBRP: Policy Guidelines for Each Focus Country (according to Table 2) D2.3 – Development of NBRP: Policy Guideline Summary
WP3	Minimum Energy Performance Standards (MEPS)	2 - E-THINK	26.00	1	30	D3.1 – Policy Needs and Status Quo regarding MEPS D3.2 – Development of MEPS: Policy Guidelines for Each Focus Country (according to table 2) D3.3 – Development of MEPS: Policy Guideline Summary
WP4	Building Renovation Passport (BRP)	3 - SERA	27.00	1	30	D4.1 – Policy Needs and Status Quo regarding BRP D4.2 – Development of BRP: Policy Guidelines for Each Focus Country (according to table 2)

Work packages						
<i>Grant Preparation (Work Packages screen) — Enter the info.</i>						
Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
						D4.3 – Development of BRP: Policy Guideline Summary
WP5	Energy Performance Certificates (EPCs)	4 - ADENE	25.25	1	30	D5.1 – Policy Needs and Status Quo regarding EPC D5.2 – Development of EPC: Policy Guidelines for Each Focus Country (according to table 2) D5.3 – Development of EPC: Policy Guideline Summary
WP6	Effective Implementation of Policy Packages: Securing Consistency and Concepts for Monitoring, Reporting, and Evaluation	5 - BPIE	33.00	1	30	D6.1 – Summary of Policy Needs D6.2 – Is Fitfor55 Fit for Buildings? D6.3 – Concepts for Monitoring, Reporting, and Evaluation
WP7	Stakeholder Engagement, Communication, Dissemination and Sustainability, Replication, and Networking with Other LIFE Projects	5 - BPIE	59.25	1	33	D7.1 – Stakeholder Engagement, Communication, and Dissemination Plan, Including Visual Identity D7.2 – Final Publishable Report D7.3 – Final report: Stakeholder Engagement Activities and Outcomes D7.4 – Final Report: Promotional Materials and Channels

Work package WP1 – Project Management and Coordination

Work Package Number	WP1	Lead Beneficiary	1. TU WIEN
Work Package Name	Project Management and Coordination		
Start Month	1	End Month	33

Objectives

The goal of WP1 is to ensure the overall management of the project. The objective is to guarantee efficient management and coordination of all project activities and to secure the realisation of the project goals within the available budget and defined time. This WP includes the following objectives:

- to stimulate and support communication among the project partners and between different work packages
- to carry out the financial and administrative management
- to guarantee quality control and regular progress monitoring
- to organize recurring and/or on-demand (physical or online) meetings of consortium partners
- to manage project risks and communicate with
- to report to the contracting authorities

Expected results in this section are the project's documents repository (intranet), periodic reporting, minutes of all project meetings, data management plan (DMP), and reporting on gender inclusivity.

Description

T.1.1 Organisation and communication (TU Wien, all partners): [M1 – M33]

Project success depends on regular, effective, and efficient communication between partners. Creating a positive communication framework and a constructive feedback culture is the main focus of this Task. In-person meetings, regular exchanges through emails, videoconferences, and phone conferences will be organized (T.1.2). The coordinator (TU Wien) will act as the contact point between the different members of the project, the project officer, and stakeholders, and will animate the necessary discussions. TU Wien will also set up a project management handbook, including deliverables, tasks, timeline, and contact data of all partners, which will be regularly updated. A share point for project documents will be established.

T.1.2 Project meetings (TU Wien, all partners): [M1 – M33]

A project meeting will be organized every six months, in addition to a Kick-Off meeting (KOM) at the beginning of the project. At least every second meeting is planned as an in-person meeting. The goal of these meetings is to guarantee smooth project progress, steady exchange of new experiences and lessons learned, solve challenges, and promote innovation through open discussions. Additionally, online meetings will be organized twice per month, one for the communication board and one for the technical board (please see Subchapter 4.2). TU Wien will organize consortium meetings and technical board meetings, and BPIE will organize communication board meetings in cooperation with the involved partners.

T.1.3 Financial administration (TU Wien, all partners): [M1 – M33]

Adequate usage of financial resources will secure that project objectives are reached following transparent bookkeeping for reporting. Financial administration will be carried out according to European legislation and the national legislation of the project partners. Highly experienced co-workers (secretaries, accountants, and lawyers) will support the coordinator in this respect. Bookkeeping will be overseen by the project coordinator (TU Wien).

T.1.4 Data Management Plan (TU Wien, all partners): [M1 – M33]

TU Wien will compose a DMP (D1.2), updated at least every 12 months in agreement with partners. The DMP will outline which data will be handled, collected, and calculated, who will do that, how the data will be shared within the consortium, and in which form/format data will be published. The DMP will serve as the basis for data handling within the project. Data management will be in line with the FAIR principles. Intellectual property rights (IPRs) will be guarded following EU recommendations on IPRs. The project will be fully compliant with the EU General Data Protection Regulation (GDPR) and international and disciplinary standards of research ethics throughout data collection and handling. The DMP will include dedicated sections on personal data management and ethical and legal aspects. Task 1.4 will run throughout the project in case of issues arise in the course of the project.

T.1.5 Progress monitoring, evaluation, reporting KPIs, risk management, gender, inclusivity (TU Wien, BPIE, e-think, SERA, ADENE): [M1 – M33]

The project's progress will be followed by the coordinator (TU Wien) according to the objectives of the work packages and performance indicators. Deadlines of deliverables, meeting minutes, and a list of participants will be monitored. Steady communication within the consortium will ensure early recognition of deviations. For risk management, see chapter 4.5. The consortium will undergo internal audits (every six months) as self-evaluation of each partner. We will monitor impact indicators, keeping track of achievements. Project partners share a common vision of gender balance in research work and related activities. Gender-neutral materials for events will be developed, and the gender balance of the consortium will be ensured by securing female speakers on workshops and panels and among lead authors and researchers involved in the project.

T.1.6 Internal reviewing and quality management (TU Wien, all partners): [M1 – M33]

All public deliverables will be reviewed by a person who was not directly involved in the elaboration of the corresponding deliverable. We will set up a table with clear responsibilities for this reviewing process at the start of the project.

T.1.7 Reporting to CINEA (TU Wien): [M1 – M33]

A progress report in M9 and periodic reports (M18 and 33) will be submitted to the project officer according to guidelines and deadlines (D1.1). Additional communications with the project officer will be organized by the coordinator (TU Wien) as needed. Contribute, upon invitation by the Agency, to common activities related to information (like reporting on impact indicators), dissemination and visibility, and synergies with other LIFE and EU supported actions.

T.1.8 Establishing a consortium agreement (TU Wien): [M1 – M2]

A consortium agreement (CA) thoroughly stating access rights and property of both background and foreground information will be established at the very beginning of the project. The legal services of all partners will be duly

Work package WP2 – Target Setting and Planning (ZEB and NBRP)

Work Package Number	WP2	Lead Beneficiary	1. TU WIEN
Work Package Name	Target Setting and Planning (ZEB and NBRP)		
Start Month	1	End Month	30

Objectives

Target setting for the improvement of the building stock is an essential starting point and is required for EPBD implementation. The EPBD foresees two instruments in that respect: (1) a definition of zero-emission buildings (ZEB) and (2) national building renovation plans (NBRPs). The ZEB standard has a strong impact on the target setting of the future building stock and strong implications on the design of other instruments (WP3-5). NBRPs are a principal tool for national target setting, planning of renovation measures, and related policies and will replace the Long-term renovation strategies in the recast EPBD. Objectives are the following:

- Identify links between ZEB definitions and EPBD implementation
- Review the proposed ZEB definitions, also concerning nZEB standards
- Collect and analyse good practice examples responding to identified policy needs
- Develop a policy guideline for effective procedures for target setting, planning, and drafting of NBRP, with a focus on selected EU MS
- Prepare the ground for replicating the proposed approaches to the other MS

As a result, we will provide (1) an overview of the policy needs and status quo of ZEB definitions and NBRPs, (2) policy guidelines for implementing target planning and NBRP in focus countries, and (3) policy guidelines for replication at EU level, applicable for all EU MS.

Description

Tasks 2.2-2.5 follow the common approach and structure of WP2-5 (see part 3.1). Here we will only describe additional, WP-specific aspects.

T.2.1 ZEB definition and the impact on EPBD implementation (ENEA, TU Wien, BPIE, EuroACE, HMRSC, ADENE): [M1 – M30]

The EPBD proposal introduces the new concept of the zero-emission building (ZEB), which represents the target to which the building stock of each EU MS will have to conform by 2050. The draft directive defines ZEB, and the MS can

adopt the definition or adapt it to their territorial specificities. This task will review ZEB definitions in focus countries and identify interactions and inferences with the policy instruments covered in WP3-5.

Subtask 2.1.1 ZEB definition: ENEA will conduct a review of ZEB and nZEB definitions in focus countries and other selected MS in collaboration with TU Wien, ADENE, BPIE, EuroACE, and HMRSC. We will carry out the following activities: (1) screening relevant studies, policy documents, standards, grey and scientific literature on ZEB definition, (2) surveys and bilateral interviews with policymakers from focus countries, (3) analysis of the difference between nZEB and ZEB standards, (4) summarizing the results in M2.1, which will feed into D2.1 (policy needs and status quo regarding long-term target setting).

Subtask 2.1.2 ZEB impact on EPBD implementation: this includes (1) proposing a ZEB definition, (2) evaluating the interactions and inferences that existing ZEB definitions and ZEB definition scenario have with policy instruments (MEPS, BRP, EPCs) covered in WPs 3-5, (3) summarizing the results in M2.1, and use it to feed D2.2 (Development of NBRP: Policy Guidelines for each focus country) and D2.3 (Development of NBRP: Policy Guideline summary).

T.2.2 Mapping policy needs for target setting, planning, and drafting of NBRP (TU Wien, EMI, BPIE, ENEA, EuroACE, SERA, ADENE, BPIE): [M1 – M6]

Adding to the descriptions provided in part 3.1, we cover two main streams of mapping policy needs for the solutions to be developed in T.2.4: (1) institutional processes, such as which type of decision makers and stakeholders have been involved and how the agreement has been achieved and (2) content of the strategies (including data availability and processing methods for scenarios development, etc.).

T.2.3 Analysis of good practice examples and status quo (TU Wien, BPIE): [M3-M8]

With the LTRS, EU MS gathered experiences with the development of long-term strategies for building renovation which is partly related to the expected scope of NBRP. Adding to the descriptions provided in part 3.1: we will collect the experiences and identify good practice examples building on a previous assessment of LTRS. In addition to the descriptions provided in part 3.1, we will cover two streams of aspects in detail to provide the ground for the solutions to be developed in T.2.4.: (1) institutional processes such as which type of decision makers and stakeholders have been involved and how an agreement has been achieved and (2) content of the strategies, data, and processing methods for scenarios development.

T.2.4 Procedures and methods facilitating the drafting of NBRP in line with policy needs in focus countries (TU Wien, BPIE, EMI, EuroACE, SERA, ADENE): [M7 – M28]

Adding to the descriptions provided in part 3.1: in this task, we will develop solutions for the two streams covered in T.2.2. (1) Institutional processes and (2) content. (1) Institutional processes: we will develop solutions for procedural aspects, e.g., identifying institutions to be involved, consultation processes, how to deal with conflicting interests, and which topics to address. (2) Content of the strategies: solutions proposed will align national and European statistics and the building stock observatory with the scenario development methods and the structure required in the EPBD template. As far as it is relevant and corresponding to the identified policy needs, we will apply the model Invert/EE-Lab to develop scenarios for selected focus countries to serve as a basis for the NBRP. We will also discuss how broader benefits can be included and possible indicators focusing on resilience rather than short-term, myopic efficiency considerations.

T.2.5 Preparing the ground for replication in other EU MS and finalizing policy guideline documents (e-think, TU Wien, BPIE, HMRSC, EMI, SERA, ADENE, EuroACE): [M21 – M30]

Adding to the descriptions provided in part 3.1: applying the building stock model Invert/EE-Lab (see T.3.3 and T.3.4) to EU-27 will deliver a framework of scenario settings for EU-27 MS, which might be used as a starting point for the development of country-specific NBRPs.

WP2 foresees a sub-contract for establishing an effective link to CA EPBD activities and stakeholders, in particular, regarding Core-Team 4 on renovation strategies. (For more information, see explanations in the budget)

Work package WP3 – Minimum Energy Performance Standards (MEPS)

Work Package Number	WP3	Lead Beneficiary	2. E-THINK
Work Package Name	Minimum Energy Performance Standards (MEPS)		
Start Month	1	End Month	30

Objectives

- To collect policy needs regarding the implementation of MEPS

- To collect and analyse good practice examples responding to identified policy needs of MEPS
 - To develop a policy guideline document for the effective implementation of MEPS
 - To prepare the ground for replicating the proposed approach for effective MEPS implementation
 As a result, we will provide (1) an overview of the policy needs and status quo of MEPS, (2) policy guidelines for implementing MEPS in focus countries, and (3) related policy guidelines on the EU level, applicable for all EU MS.

Description
<p>Tasks 3.1-3.4 follow the common approach and structure of WP2-5 (see part 3.1). Here we will only describe additional, WP-specific aspects.</p> <p>T.3.1 Policy needs with respect to MEPS (e-think, TU Wien, EuroACE, BPIE, SERA, ADENE, ENEA): [M1 – M6] Adding to the descriptions provided in part 3.1: we will first strive to understand the specific context, experiences, and challenges of implementing MEPS in selected focus countries and beyond (building on existing studies such as Sunderland and Santini, 2021) and second describe the broader economic and policy context which might have an impact on MEPS implementation, like the economic situation in different sectors and the real estate sector as a whole, availability of financing or economic viability of renovation activities in different parts of the building sector. Possibly arising legal challenges and questions for implementing MEPS will be communicated to task 6.1.2 (legal aspects), where they will be analysed together with legal questions from other WPs.</p> <p>T.3.2 Analysis of good practice examples and status quo with respect to MEPS (e-think, TU Wien, BPIE, EuroACE, ADENE, SERA): [M3 – M8] Adding to the descriptions provided in part 3.1: some regions and countries already implemented instruments similar to MEPS (such as Flanders, France, the UK, and Portugal (non-residential)). Building on existing literature, we will discuss these examples, implications, and barriers, identify the right practice components, and open questions for further analysis and discussion.</p> <p>T.3.3 Elaborating solutions for effective design, implementation, monitoring, and evaluation of MEPS in focus countries (e-think, TU Wien, BPIE, EuroACE, ADENE, SERA, ENEA): [M7 – M28] Adding to the descriptions provided in part 3.1: we will assess the possible impact of different options to implement MEPS in selected focus countries (see table 2). These options will consider MEPS settings like timing and stringency in different building types. We will: (1) Apply the established and ready-to-use building stock model Invert/EE-Lab. It allows us to assess the effect of MEPS settings on indicators like energy demand, investments, and energy costs in scenarios up to 2030/2050 in a high granularity for different parts of the building stock. (2) Discussing the results in line with the description in part 3.1</p> <p>T.3.4 Preparing the ground for replication in other EU MS and finalizing policy guideline documents (e-think, TU Wien, EuroACE, BPIE, ENEA, ADENE, SERA): [M21 – M30] Adding to the descriptions provided in part 3.1: Based on these discussions, we will show the impact of different MEPS settings similar to T.3.3 by applying the building stock model Invert/EE-Lab to EU-27</p>

Work package WP4 – Building Renovation Passport (BRP)

Work Package Number	WP4	Lead Beneficiary	3. SERA
Work Package Name	Building Renovation Passport (BRP)		
Start Month	1	End Month	30

Objectives
<p>- To collect policy needs regarding the implementation of BRP - To collect and analyse good practice examples responding to identified policy needs - To develop a policy guideline document for the effective implementation of BRP - To prepare the ground for replicating the proposed approach for effective BRP implementation As a result, we will provide (1) an overview of the policy needs and status quo of BRP, (2) policy guidelines for implementing BRP in focus countries, and (3) related policy guidelines on the EU level, applicable for all EU MS.</p>

Description

Tasks 4.1-4.4 follow the common approach and structure of WP2-5 (see part 3.1). Here we will only describe additional, WP-specific aspects.

T.4.1 Policy needs (SERA, EMI, BPIE, EuroACE, HMRSC, ADENE, TU Wien, ENEA): [M1 – M6]

Adding to the descriptions in part 3.1: known challenges of BRP implementation are, for example: what is the legal status of the BRP, and as a consequence, the liability of the issuer; is there an obligation to always attach a BRP to the EPC of an existing building; how to deal with the long-term horizon of the roadmap in terms of cost and possible technological changes, and possible changes of utilization (e.g., office building turns to residential building); how to enforce the implementation of measures; how to deal with indicators like health and climate adaptation; how to establish the link with the building logbook.

T.4.2 Analysis of good practice examples and status quo (SERA, BPIE, EMI, EuroACE, ADENE, TU Wien): [M3 – M8]

Adding to the descriptions in part 3.1: Directive (EU) 2018/844 foresees the possibility of voluntary implementation of the BRP. A feasibility study and European projects have been carried out to document the state of play and investigate options for implementing the BRP. Some MS (e.g., Austria) did it, and there are some lessons learned available. Good practice elements are compiled, and where required, additional research is done.

T.4.3 Elaborating solutions for effective design, implementation, monitoring, and policy evaluation (SERA, HMRSC, EMI, BPIE, EuroACE, ADENE, TU Wien, ENEA): [M7 – M28]

Adding to the descriptions in part 3.1: We will develop a policy guideline document that provides step-by-step advice for MS on how to implement the Building Renovation Passport effectively, highlighting the levers and possible pitfalls while considering interlinkages and possible synergies with the other policy instruments, including the other ones addressed in the project. Specific attention is paid to interfaces with the real estate sector.

T.4.4 Preparing the ground for replication in other EU MS and finalizing policy guideline documents (SERA, BPIE, TU Wien, EMI, ENEA, EuroACE, ADENE): [M21 – M30]

According to the descriptions in part 3.1, we will provide a template for replication in the other EU MS not represented

Work package WP5 – Energy Performance Certificates (EPCs)

Work Package Number	WP5	Lead Beneficiary	4. ADENE
Work Package Name	Energy Performance Certificates (EPCs)		
Start Month	1	End Month	30

Objectives

- Collect and map needs regarding the optimal management and improvement of current EPC schemes
- Collect and analyse good practice examples responding to identified needs
- Develop a policy guideline for the effective use of EPC schemes in focus countries
- Prepare the ground for replicating the proposed approach for the effective use of EPC schemes

As a result, we will provide (1) an overview of the policy needs and status quo of EPCs, (2) guidelines for optimal management and improvement of EPCs in focus countries, and (3) related guidelines on the EU level, applicable for all EU MS.

Description

Tasks 5.1-5.4 follow the common approach and structure of WP2-5 (see part 3.1). Here we will only describe additional, WP-specific aspects.

T.5.1 Mapping policy needs (ADENE, SERA, ENEA, EMI, EuroACE, HMRSC, TU Wien, BPIE): [M1 – M6]

Adding to the descriptions in part 3.1: on top of well-known challenges of improving EPC schemes, it's expected that the upcoming EPBD recast will bring additional ones like rescaling of EPC labels and methodologies to redistribute the building stock along those scales, the introduction of MEPS (see WP2) based on the EPC label and the need to assure that all buildings have an EPC to check compliance with MEPS, the role of BRP and EPCs together and how can BRP expand the EPC recommendations, ZEBs and NBRPs with targets based on the top EPC label, further use of EPC in financing or the integration of additional indicators like SRI or the disclosure of the Global Warming Potential (GWP).

<p>T.5.2 Analysis of good practice examples and status quo (ADENE, SERA, ENEA, EuroACE): [M3 – M8] Adding to the descriptions in part 3.1: Since EPCs have been in place for almost 20 years, a wide spread of good practices exists but are somehow scattered or less known. Some regions and countries are leading on certain features of the EPCs, such as Portugal (link with finance and quality control), Denmark (new EPC owner-oriented), Belgium (alignment with 2050 targets), and Italy (integration with regions). These examples will be analysed and documented.</p> <p>T.5.3 Elaborating solutions for effective design, monitoring, and policy evaluation (ADENE, EMI, HMRSC, SERA, ENEA, EuroACE, BPIE, TU Wien): [M7 – M28] Adding to the descriptions in part 3.1: we will assess the possible impact of different options to improve the EPCs schemes in selected focus countries in different scenarios. These options will consider different approaches based on the good practice examples of EPCs and conditions of the target countries.</p> <p>T.5.4 Preparing the ground for replication in other EU MS and finalizing policy guideline documents (ADENE, TU Wien, ENEA, BPIE, SERA, EMI, EuroACE): [M21 – M30] According to the descriptions in part 3.1, we will develop a blueprint for replication and discuss the results with non-</p>
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Work package WP6 – Effective Implementation of Policy Packages: Securing Consistency and Concepts for Monitoring, Reporting, and Evaluation

Work Package Number	WP6	Lead Beneficiary	5. BPIE
Work Package Name	Effective Implementation of Policy Packages: Securing Consistency and Concepts for Monitoring, Reporting, and Evaluation		
Start Month	1	End Month	30

<p>Objectives</p> <p>WP6 is designed to support the implementation of WP2-5 and secure that these policies reinforce each other and deliver the expected results. Its implementation is tightly linked to WP2-5 and will require regular exchange and cooperation with partners involved in delivering WP2-5. Objectives are the following: Guarantee a consistent approach to policy design (including monitoring, reporting, and evaluation) across all selected policies in WP2-5 Identify synergies with provisions within the Fitfor55 package that are relevant for the decarbonization of the EU building stock. Identify and address links between EPBD and other EU policies and strategies (e.g., RePowerEU, circular economy, adaptation, nature-based systems, heating, and cooling strategy) and emerging concepts and trends in the building and construction industry (e.g., digitalization, serial renovation, whole-life carbon) Expected results are specific guidance to MS on how to effectively design, monitor, and evaluate policies under the EPBD and avoid gaps in policy design.</p>
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<p>Description</p> <p>While WP2-5 will focus on supporting MS in developing specific policies, WP6 will guarantee a consistent approach to their design (including monitoring, reporting, and evaluation) across work packages. To this end, in close cooperation with leads of WP2-5, we will organize the work around four main areas: 1. Policy Design: to guarantee that the main implementing policies introduced by the EPBD are designed to reinforce each other (e.g., links between MEPS, EPC, and BRP, digitalization and use of data, etc.) and that a consistent approach is suggested to MS across the project 2. Consistency check with Fitfor55 (especially EED and RES) and other relevant EU strategies and targets (e.g., RePowerEU, EU WLC roadmap) 3. Concepts for monitoring, reporting, and evaluation (MR&E): proper monitoring, reporting, and evaluation processes are fundamental to guarantee impacts and results but are very often overlooked. Under this workstream, we will examine the main challenges faced by MS in setting up a proper MR&E system, explore principles to be applied in the design phase, and suggest solutions for the effective monitoring and implementation of the policies designed in WP2-5. 4. Emerging concepts and trends in the construction industry: what are the main trends in the construction industry, and how could they influence EPBD implementation in the focus countries?</p>
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T.6.1 Secure Consistency across EPBD Policies (BPIE, SERA, ENEA, e-think, TU Wien, ADENE, EuroACE, EMI): [M1 – M24]

Subtask 6.1.1 Identify links among policies targeted in WP2-5 and propose an approach to address and solve potential conflicts or gaps (Lead: BPIE, M1 – M18): This will be done in close cooperation with WP leads and national stakeholders (see WP7). MEPS, EPCs, and BRP relate to each other, but the EPBD doesn't address this synergy and doesn't provide any guidance to MS on how these policies should be aligned. E.g., how to ensure that the design of MEPS and the rescaling and design of EPCs are aligned? How to avoid the co-existence of old and new EPCs on the market given the introduction of MEPS based on an EPC rating? How to guarantee a consistent approach to renovation advice once EPCs and BRPs are on the market? Under this task, we will identify the main connections among these key policies to support the policy design under WP2-5.

Subtask 6.1.2 Identify and address legal issues related to the interpretation and implementation of the EPBD (Lead: SERA, M1 – M24): It is expected that in the implementation of WP2-5, issues will arise that require a detailed legal analysis. The innovative character of the energy efficiency measures promoted by the project entails the need to determine their legal design, both at the EU and national levels. Successful examples will be analysed, with the view to establishing their potential to be replicated. For example, trade-offs between the protection of personal data, accessibility to data for developing renovation projects and tracking energy and GHG emission reductions, issues related to the property rights of real estate owners versus the obligations imposed by the government in the context of MEPS, potential impacts of policies on property rights of individual owners. Based on the preliminary results of WP2-5 it will be decided which legal issues should be dealt with.

We foresee a budget of other goods, works and services for legal studies. It is planned to work with a company highly specialized in energy, environment, and building issues and related legal studies.

T.6.2 Secure Consistency of the EPBD with Other Fitfor55 Provisions Favouring Forward-Looking and Holistic Building Policies (BPIE, EuroACE, EMI, TU Wien, e-think, ADENE, SERA): [M1 – M30]

Task 6.2 will be divided into two workstreams covering a range of EU policies and strategies which can influence the evolution of the building stock by 2050:

a. Fitfor55: We will investigate the provisions within the Fitfor55 package that are relevant for the decarbonization of the EU building stock (e.g., renewable energy communities, exemplary role of public buildings, efficient district heating, etc.) and assess the consistency of the approach suggested to MS to deliver the EU targets objectives. Solutions on how to address gaps, contradictions, and potential overlaps resulting from this research will be shared with the leads of WP2-5 and MS.

b. Other EU policies (e.g., RePowerEU, heating and cooling strategy, adaptation, WLC) will be considered to assess their connection with the design of policies under WPs 2-5. The list of policies to be examined will be proposed and finalized at the beginning of the project to allow a punctual selection of the most prominent policies and strategies that may influence the implementation of EPBD and the achievement of EU targets.

T.6.3 Concepts for Monitoring, Reporting, and Policy Evaluation (BPIE, TU Wien, e-think, HMRSC, ENEA, EMI, ADENE, EuroACE, SERA): [M1 – M26]

Setting proper monitoring, reporting, and evaluation (MR&E) process is essential for the success of any policy. The ability to monitor, report and evaluate the impact of their policies will be central to assessing the effectiveness of NBRPs. So far, LTRS submitted to the EC provided limited details about this aspect. This task will provide a step-by-step approach to monitoring, reporting, and evaluating policies analysed under WP2-5. In a close feedback loop with key partners and stakeholders, we will explore the following steps and suggest solutions on how to address MR&E under the EPBD:

- Monitoring: how can MS develop monitoring mechanisms to gather data and document participation and impacts of selected policies? Would a harmonized EU monitoring mechanism help MS in collecting data?

- Reporting: in the past, MS has reported progress on the implementation of the EPBD in various ways. As a result, analysing and comparing the quality and progress of LTRS proved very challenging since the impact of similar policies was reported inconsistently. Based on the requirement of the EPBD and the need to measure progress against the EU targets for 2030 and 2050, this task will explore how MS should report progress on the performance and renovation of the building stock.

- Evaluation: structured and regular evaluations (process and impact evaluations) are necessary to understand if policies and programs have been implemented as intended. They help measure (from a quantitative and quality perspective) if policies are effective and offer solutions for their adjustment.

At the end of this task, the consortium will deliver a series of solutions on how to integrate monitoring, reporting, and evaluation in the design of policies and suggest ways to gather data and information for measuring and reporting the impact of specific policies.

T.6.4 Emerging Concepts and Trends in the Construction Industry (EMI, BPIE, TU Wien, e-think, ADENE, SERA): [M1 – M12]

Emerging concepts and trends in the construction industry (digitalization, serial renovation, whole-life carbon, Nature

Based Solutions, Circular Economy, resilience/fire safety, Smart Cities and Communities, upskilling of professionals and blue-collar workers, etc.) can influence how governments shape new policies and depending on national circumstances, could trigger a conservative or more progressive transposition of the EPBD. Under this activity, in coordination with key actors and stakeholders in MS (see WP7), we will analyse the main trends in the construction industry and discuss

Work package WP7 – Stakeholder Engagement, Communication, Dissemination and Sustainability, Replication, and Networking with Other LIFE Projects

Work Package Number	WP7	Lead Beneficiary	5. BPIE
Work Package Name	Stakeholder Engagement, Communication, Dissemination and Sustainability, Replication, and Networking with Other LIFE Projects		
Start Month	1	End Month	33

Objectives

- Develop a Communication, Dissemination, and Stakeholder Engagement plan to act as a guide for the implementation of effective communication and dissemination over the project's lifetime and beyond. The plan should guarantee the involvement of the right stakeholders, uptake of project results in the focus countries, and widespread coverage of the project achievements across the EU more broadly.
- Ensure effective outreach, management, and coordination of stakeholder engagement activities with consortium partners to feed, validate and disseminate the results of WP2-6, focusing extensively on community building at the MS level, particularly in focus countries.
- Build the narrative on EPBD implementation and building renovation more broadly in focus country media as well as in the wider EU and MS media; raise awareness of implementation solutions, best practices, and policy solutions.
- Create synergies with other LIFE projects and initiatives to ensure consistent dissemination toward a broader EU policy audience and support replication of results in other MS.
- Develop an Exploitation Plan to set up an effective and direct utilization of the project results post-project.

Description

T.7.1 Stakeholder Engagement, Communication, and Dissemination Plan (BPIE, TU Wien, EuroACE, e-thnk, ADENE, SERA, EMI, HMRSC, ENEA): [M1 – M33]

Subtask 7.1.1 Stakeholder engagement, dissemination, and communication (SEDC) plan: A stakeholder engagement, dissemination, and communication plan (SEDC plan) will be developed to ensure that KPIs are met and that all Key Exploitable Results (KERs) identified are actively monitored and fully exploited during the project lifetime. The plan will include refined key messages, including standard marketing copy, a list of networks, partner projects, and initiatives that can be clustered for events and dissemination purposes, alignment with existing portals, and communication channels, as well as strategic third-party events that could be leveraged, an initial event timeline and concept of different project event formats. The SEDC plan will also include the development of and guidance on the project logo and identity, website, tools and communication channels, main dissemination channels, and initiatives to be exploited, as well as clearly defined roles and responsibilities of partners. An excel tracking tool will be developed and available for partners to use for monitoring dissemination activities. The plan will be reviewed yearly and updated as needed.

Subtask 7.1.2 Project identity: The project identity will ensure project recognition and visibility. A brainstorming session will be carried out with partners during the kick-off meeting, and an external graphic designer, involved in the following days to define the logo and branding (colour schemes, font choice, template for reports in Word, PPT template, etc.). The identity will be ready in month 2.

Subtask 7.1.3 Setup of the EPBD.wise project webpage: A project webpage will be developed and embedded on the BPIE website, which receives an average of 60k unique users per year. It will include (1) the project's presentation and scope, (2) different activities and their timeline, (3) partners and geographical scope (including information on focus country contact points – see T.7.2), (4) contact information and Box to register to the newsletter, (5) link to social media accounts (6) publications section with latest deliverables. The webpage will include an update by M10 with a 'policy corner' that will include results of WP2-5 reports on policy needs and best practices. The 'policy corner' will be a dynamic area to easily access different information on policy best practices with infographics. TU Wien will closely support the development of the structure. Text for a simple project webpage will be provided to partners, and they will be encouraged to include information about the project on their websites (where feasible) to maximize broad dissemination.

Subtask 7.1.4 Exploitation plan (TU Wien): Based on the results already exploited during the project, and in particular the policy recommendations from the policy work packages in M33, TU Wien, together with the support of all partners, will draft an exploitation plan to ensure a realistic roadmap is in place for all partners. It will build on the KERs identified in T.7.1.1 and include a replication component/business plan.

Subtask 7.1.5 Final publishable report: The project will prepare a final publishable report presenting the key results, main lessons learnt, and recommendations for the future. The final publication should be professionally designed, attractive and tailored to the target group. The content and final draft of the publishable report must be discussed with CINEA before publication.

T.7.2 Stakeholder/End-User Engagement and Management Process (BPIE, EuroACE, TU Wien, e-think, ADENE, SERA, EMI, HMRSC, ENEA): [M1 – M33]

This task will assure tight and coherent coordination of stakeholder outreach, particularly among WP leads, securing strong relationship management with stakeholders and avoiding repetition/spam in outreach or contradictory messages.

Subtask 7.2.1 Stakeholder identification, mapping (BPIE, all partners): Capitalising on all partners' existing knowledge and networks from an ongoing or previous successful project (e.g., BuildUpon2 H2020 project, of which BPIE was a project partner), the consortium will develop a secure database of contacts comprising of the above stakeholders, with a specific focus on ensuring solid lists of national experts responsible for the implementation of ZEB, NBRP, MEPS, BRP, and EPCs. The key output of the mapping will be a master excel document that is constantly updated by all partners and monitored by BPIE over the project's lifetime.

Subtask 7.2.2 Stakeholder onboarding process and management (BPIE, all partners): The first campaign to onboard stakeholders will be launched in M4 of the project once the SH mapping is complete. BPIE will develop targeted 1-2 pagers with key messages for stakeholders according to their typology and will coordinate an outreach process within the consortium with specific rules for follow-up and to track outreach success. Outreach will take place via 1-1 (personal, direct outreach) and public dissemination campaigns. The outreach process will take place intensively during M4 to ensure a well-rounded list of SH prepared to engage in the project with clarity on the specific expertise and activities of interest. BPIE will ensure that all outreach and storage of contacts is GDPR compliant and will inform stakeholders about how their data will be treated.

Subtask 7.2.3 Set up and management of focus country contact points (FCCPs) (EuroACE, BPIE, all partners): The first stakeholder outreach will include a special effort to ensure focus country contact points (FCCPs) have bought into their roles and responsibilities as leading/supporting national outreach activities. A ToR for these partners will be drafted, outlining clear responsibilities and a schedule of events where their involvement is required. In addition, quarterly calls with the FCCPs as a group will be scheduled to maintain consistent and strong communication, ensuring that FCCPs remain informed and able, where appropriate, to support continual outreach and dissemination as needed.

T.7.3 Stakeholder Engagement to Feed Policy Outputs and Disseminate Results (BPIE, EuroACE, EMI, HMRSC, TU Wien, ADENE, SERA, e-think, ENEA): [M3 – M33]

Task 7.3 includes activities targeted at focus countries and towards wider EU-level towards national stakeholders in other countries to encourage replication of results, as well as towards EU-level policymakers. Many subtasks focus strongly on focus countries but also provide replication opportunities.

Subtask 7.3.1 EPBD.wise Policy Forums in focus countries (EuroACE): A series of two sets of in-person Policy Forums in the focus countries (as specified in part 1 of the proposal) – 12 events totals, spanning six countries (two events per country). These will be designed as 1-day policy training, gathering approximately 20-30 national level stakeholders (with a potential of small-group, topic-specific breakout sessions), and are intended to (1) discuss policy needs and good practice examples, (2) validate and disseminate results from the WP2-6 policy packages, to ensure uptake of policy recommendations. An overarching goal that is key to the success of these meetings is to build relationships with the policymakers and influential national stakeholders with a direct interest in EPBD implementation. Two 'cycles' of events are foreseen: The first, from approximately M6-M9, will focus on identifying policy needs, sharing best practices (to feed phase 1 of work in WP2-5), and will put a strong emphasis on relationship building. The second cycle will take place from M21-M24 and will look to use this work to develop the policy guidelines of focus countries, due in M28. The overarching program will be coordinated by EuroACE, with most content and logistic work on the ground being taken care of by focus country contact points (see part 3.3). Simultaneous bi-directional interpretation will be foreseen to allow 1-2 WP leaders to participate in each event (depending on the focus of the countries, see table 2 in part 1.4).

Subtask 7.3.2 Online stakeholder roundtables to inform the development of policy deliverables (BPIE): A series of three online stakeholder discussion groups (one series of topic-specific workshops per year covering WP2-5), in approximately M6-7, M16-18 and M26-28 (8-12 workshops total). The workshops will include small groups of handpicked stakeholders from within but also outside of the focus countries to gather a wide range of expertise on specific policy topics. The workshops will be designed to foster maximum engagement, including questionnaires/surveys and breakout groups to encourage discussion among stakeholders – for this reason, the groups will not be large but to include maximum discussion (aiming at 15-20 stakeholders per workshop). The discussion groups will be designed to feed the deliverables due in M8, M20, and M33 across WP2-5, respectively.

Subtask 7.3.3 EPBD.wise presence at C4E Forum and Renovate Europe plenary (EuroACE): As coordinator of the C4E Forum and Renovate Europe Campaign, EuroACE will secure a strong presence for EPBD.wise to disseminate project results towards target audiences in focus countries and also potential replication countries in the 'EU-15' (non-CEE countries who nevertheless could replicate/use the results). The C4E Forum will be held in the spring of 2023 and 2025, and the Renovate Europe plenary meeting will take place in 2023, 2024, and 2025. Presentations on the overall project aims, context, and progress will be made in addition to the organization of breakout/discussion groups on individual topics to advance building the policy guidelines in WP2-6. At least one Renovate Europe plenary will be fully dedicated to the EPBD.wise project.

Subtask 7.3.4 Interaction with Concerted Action on the EPBD and the European Energy Network (ADENE, Contributors: SERA, ENEA, EMI): EPBD.wise will be presented and discussed regularly within the sessions of CA EPBD and ENR thanks to the active role of four key consortium members: ADENE, SERA, ENEA, and EMI. The group should be used to provide bi-directional support, both in providing expertise to feed policy outputs and disseminate results and encourage uptake, reaching 'replication' countries, i.e., MS not included among the focus countries.

Subtask 7.3.5 Bilateral discussions with policymakers in focus countries (EuroACE): Bilateral discussions with relevant national policymakers and other focus country stakeholders. The purpose of these discussions is to ensure consistent engagement and trust-building with stakeholders and create continuity, as well as to ensure regular bi-directional information exchange related to the policy deliverables, in particular, between the two in-person EPBD.wise policy forums (T7.3.1). The discussions will aim at informing these stakeholders about the project objectives, collecting their views and experience as input to the WP policy outputs, and presenting the guidelines and best practices to encourage their uptake. FCCPs will provide vital support to arrange the discussions, and WP leads will also support in creating the agendas and will be present in the discussions as needed.

Subtask 7.3.6 Bilateral discussions with policymakers at the EU level (BPIE): In this subtask, BPIE will organize bilateral discussions with policymakers at the EU level, at least once per year, to keep them abreast of the work being carried out, especially to highlight the outcomes of the policy work packages in the last months of the project. Discussions – if impossible via telephone or in-person – could also take the form of 1-1 tailored email exchanges.

Subtask 7.3.7 Clustering activities with other initiatives: (BPIE): To support dissemination in focus countries, FCCPs will each present the work of the project at a minimum one national event per year (3 total each) identified as relevant to the target group. Consortium partners will also participate and present at a total of a minimum of 30 external online or in-person events to ensure wider dissemination and replication of project results at the EU level and in the other EU MS (minimum of four events total per partner). The list of events will be mapped and included in the SEDC plan in T.7.1. BPIE, in close collaboration with EuroACE, will also organize a policy conference at EUSEW in the second year of the project.

Subtask 7.3.8 Replication webinars at EU Level (BPIE): In light of reaching the broader policy community at the EU and national level outside the focus countries, BPIE will organize four webinars to showcase the results of the policy work packages, as well as the results of WP6 to encourage replication in other EU MS, and also disseminating the results to the EU policy/advocacy community. The webinars will seek to cluster with other EU projects/initiatives where appropriate. All partners will have a role in speaking and preparing content and will be asked to disseminate it. EuroACE, in particular, will provide strong dissemination support for its network. The recordings of the live webinars will be integrated into the project webpage and on YouTube. The Leonardo platform will be considered as a 'host' for this series, given its strong ties to national-level policy audiences across the EU.

Subtask 7.3.9 Final conference at the EU level (BPIE): A final conference at the EU level will be organized to present the project results, implications, and policy recommendations to a broader audience. FCCPs and policymakers will be invited to present their experiences at the national level.

T.7.4 Media Coverage and Scientific Publications (BPIE, TU Wien, e-think, ADENE, SERA, NHMRSC, EMI, EuroACE, ENEA): [M1 – M33]

Subtask 7.4.1 Media coverage: Local and EU media will be leveraged to create a narrative about the implementation of the EPBD in focus countries and the EU more broadly. At least 6-8 press releases and outreach to the press are foreseen, particularly in M4 to announce the launch of the project, in M9-10 to showcase the results of the barriers/policy needs, throughout the project in focus countries to showcase the outcomes of the policy forums, and around M33 disseminate the final policy guidelines and outcome of final conference. We aim to have at least 75 media mentions. Media will also be invited to attend the policy forums (subtask 7.3.1). A series of 8 blog articles targeting the broader policy community will be written and included on the project webpage. At least half of them will focus on the results of national roundtable events, including interviews with participants/speakers and images from the events.

Subtask 7.4.2 Scientific publications: In order to ensure the peer-reviewed quality of the research findings and raise awareness in the scientific community, academic and technical partners, coordinated by TU Wien, will perform publications in peer-reviewed journals and conferences and similar events.

T.7.5 Printed and digital promotion, dissemination materials, and communication and dissemination activities (BPIE, EuroACE, HMRSC, TU Wien, EMI, e-think, ADENE, SERA, ENEA): [M1 – M33]

A series of marketing materials, both digital and print, will be developed to ensure consistent output of content and to generate strong visibility including: (1) a roll up in English and translated into languages of focus countries; a series of small infographics will be developed around M10, M22, and M32 to be featured on social media; (2) a series of animated videos will be produced, the first by M6 to introduce the project and the last by M34. The first will introduce the project concept and create a narrative around EPBD implementation, the work on new tools in MS, and the video in M34 will summarise key findings of the guidelines. The last video could also be designed as a series of shorter videos to describe the policy recommendations derived in WP2-5. (3) Newsletters and email marketing are foreseen around every six months to generate awareness of broader policy and media audiences, including stakeholders from potential replication countries. Newsletters will be in English but also translated by FCCPs into the focus country language. Occasional email blasts – sharing press releases, news items, and event invitations, are also foreseen. This will be clearly stated in the newsletter privacy policy. (4) Two policy briefings and infographics will be developed and professionally designed by M12 and M35, respectively, summarising the key messages from the policy needs and best practices outputs and the policy guidelines from WP2-5, respectively. The briefings will be translated into six focus country languages and shared with policymakers. (5) Proofreading, design, and translation of key publications: All main deliverables (all policy guidance deliverables from WP2-5 as well as the three key reports from WP6) will be designed professionally and include infographics to highlight key messages in an easy-to-digest way for policymakers. In addition, the four policy recommendation reports will be translated into the six focus country languages. (6) Social networks (mainly LinkedIn and Twitter) will be leveraged to actively involve the target groups and encourage them to follow the project and exchange views. The existing accounts of the partners will be leveraged to share the project information, create familiarity with the project and create synergies. Each partner will be requested to support, either by re-tweeting, tweeting, or submitting ideas regularly. Ideas for posts, content, and hashtags to be used will be included in the SEDC plan. A specific hashtag will be created for monitoring purposes. (7) Digital networking: Dissemination platforms at the EU and national level will be used as multiplying networks. Examples include BuildUP, Construction21, LinkedIn Groups, bloggers, and especially clustering activities with similar EU-funded projects and initiatives.

Role of participants:

- BPIE: Work package coordination. Leader of all tasks.
- EuroACE: Leader of subtasks 7.2.3, 7.3.1, and 7.3.3, strong
- TU Wien: Leader of subtask 7.4.2, strong role of reviewer for all tasks.
- ADENE: Leader of subtask 7.3.4
- All focus country contact point partners: Responsible for translation support and media outreach at the national level (e.g., newsletter – T.7.5, media outreach – T.7.4)
- All partners are to provide significant input in T.7.1 and T.7.2.

STAFF EFFORT

Staff effort per participant								
<i>Grant Preparation (Work packages - Effort screen) — Enter the info.</i>								
Participant	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total Person-Months
1 - TU WIEN	10.00	10.00	7.00	2.00	2.00	3.50	6.20	40.70
2 - E-THINK	2.00	6.00	12.00			3.50	3.30	26.80
3 - SERA	2.00	1.00	1.00	11.00	2.00	2.00	3.75	22.75
4 - ADENE	2.00	1.00	1.00	1.00	10.00	2.00	3.78	20.78
5 - BPIE	2.00	4.00	2.00	4.00	2.00	13.00	19.10	46.10
6 - ENEA	1.50	6.00	1.00	1.00	2.25	2.50	2.48	16.73
7 - EMI	1.50	4.00		3.00	3.00	2.00	5.85	19.35
8 - EuroACE	1.50	2.00	2.00	2.00	2.00	2.50	8.90	20.90
9 - HMRSC	1.50	2.00		3.00	2.00	2.00	5.89	16.39
Total Person-Months	24.00	36.00	26.00	27.00	25.25	33.00	59.25	230.50

LIST OF DELIVERABLES

Deliverables						
<i>Grant Preparation (Deliverables screen) — Enter the info.</i>						
<i>The labels used mean:</i>						
<i>Public — fully open (🚩 automatically posted online)</i>						
<i>Sensitive — limited under the conditions of the Grant Agreement</i>						
<i>EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444</i>						
Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D1.1	Data Management Plan	WP1	1 - TU WIEN	DMP — Data Management Plan	PU - Public	6
D1.2	Technical Progress Report	WP1	1 - TU WIEN	R — Document, report	SEN - Sensitive	9
D1.3	Extract of the project data from the LIFE KPI webtool	WP1	1 - TU WIEN	OTHER	PU - Public	9
D1.4	Updated extract of the project data from the LIFE KPI webtool	WP1	1 - TU WIEN	OTHER	PU - Public	33
D2.1	Policy Needs and Status Quo regarding Long-Term Target Setting	WP2	1 - TU WIEN	R — Document, report	PU - Public	8
D2.2	Development of NBRP: Policy Guidelines for Each Focus Country (according to Table 2)	WP2	1 - TU WIEN	R — Document, report	PU - Public	28
D2.3	Development of NBRP: Policy Guideline Summary	WP2	1 - TU WIEN	R — Document, report	PU - Public	30
D3.1	Policy Needs and Status Quo regarding MEPS	WP3	2 - E-THINK	R — Document, report	PU - Public	8
D3.2	Development of MEPS: Policy Guidelines	WP3	2 - E-THINK	R — Document, report	PU - Public	28

Deliverables						
<i>Grant Preparation (Deliverables screen) — Enter the info.</i>						
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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
	for Each Focus Country (according to table 2)					
D3.3	Development of MEPS: Policy Guideline Summary	WP3	2 - E-THINK	R — Document, report	PU - Public	30
D4.1	Policy Needs and Status Quo regarding BRP	WP4	3 - SERA	R — Document, report	PU - Public	8
D4.2	Development of BRP: Policy Guidelines for Each Focus Country (according to table 2)	WP4	3 - SERA	R — Document, report	PU - Public	28
D4.3	Development of BRP: Policy Guideline Summary	WP4	3 - SERA	R — Document, report	PU - Public	30
D5.1	Policy Needs and Status Quo regarding EPC	WP5	4 - ADENE	R — Document, report	PU - Public	8
D5.2	Development of EPC: Policy Guidelines for Each Focus Country (according to table 2)	WP5	4 - ADENE	R — Document, report	PU - Public	28
D5.3	Development of EPC: Policy Guideline Summary	WP5	4 - ADENE	R — Document, report	PU - Public	30
D6.1	Summary of Policy Needs	WP6	5 - BPIE	R — Document, report	PU - Public	14
D6.2	Is Fitfor55 Fit for Buildings?	WP6	5 - BPIE	R — Document, report	PU - Public	30
D6.3	Concepts for Monitoring, Reporting, and Evaluation	WP6	5 - BPIE	R — Document, report	PU - Public	26
D7.1	Stakeholder Engagement, Communication,	WP7	5 - BPIE	R — Document, report	SEN - Sensitive	3

Deliverables						
<i>Grant Preparation (Deliverables screen) — Enter the info.</i>						
<i>The labels used mean:</i>						
<i>Public — fully open (⚠ automatically posted online)</i>						
<i>Sensitive — limited under the conditions of the Grant Agreement</i>						
<i>EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444</i>						
Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
	and Dissemination Plan, Including Visual Identity					
D7.2	Final Publishable Report	WP7	5 - BPIE	R — Document, report	PU - Public	31
D7.3	Final report: Stakeholder Engagement Activities and Outcomes	WP7	5 - BPIE	R — Document, report	PU - Public	33
D7.4	Final Report: Promotional Materials and Channels	WP7	5 - BPIE	R — Document, report	PU - Public	33

Deliverable D1.1 – Data Management Plan

Deliverable Number	D1.1	Lead Beneficiary	1. TU WIEN
Deliverable Name	Data Management Plan		
Type	DMP — Data Management Plan	Dissemination Level	PU - Public
Due Date (month)	6	Work Package No	WP1

Description
Outlines which data will be handled, collected, and calculated, who will do that, how the data will be shared internally

Deliverable D1.2 – Technical Progress Report

Deliverable Number	D1.2	Lead Beneficiary	1. TU WIEN
Deliverable Name	Technical Progress Report		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	9	Work Package No	WP1

Description

Deliverable D1.3 – Extract of the project data from the LIFE KPI webtool

Deliverable Number	D1.3	Lead Beneficiary	1. TU WIEN
Deliverable Name	Extract of the project data from the LIFE KPI webtool		
Type	OTHER	Dissemination Level	PU - Public
Due Date (month)	9	Work Package No	WP1

Description

Deliverable D1.4 – Updated extract of the project data from the LIFE KPI webtool

Deliverable Number	D1.4	Lead Beneficiary	1. TU WIEN
Deliverable Name	Updated extract of the project data from the LIFE KPI webtool		
Type	OTHER	Dissemination Level	PU - Public
Due Date (month)	33	Work Package No	WP1

Description
Updated extract of the project data from the LIFE KPI webtool

Deliverable D2.1 – Policy Needs and Status Quo regarding Long-Term Target Setting

Deliverable Number	D2.1	Lead Beneficiary	1. TU WIEN
Deliverable Name	Policy Needs and Status Quo regarding Long-Term Target Setting		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	8	Work Package No	WP2

Description
Report (~20 pages) in the English (with possible translations in languages of selected focus countries), pdf format; contains results of T2.1.1 and T.2.

Deliverable D2.2 – Development of NBRP: Policy Guidelines for Each Focus Country (according to Table 2)

Deliverable Number	D2.2	Lead Beneficiary	1. TU WIEN
Deliverable Name	Development of NBRP: Policy Guidelines for Each Focus Country (according to Table 2)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	28	Work Package No	WP2

Description
Reports (each 10-20 pages) in the English (with possible translations in languages of selected focus countries), pdf format; contains results of T.2.1.2 and T.2.3 (for selected focus countries)

Deliverable D2.3 – Development of NBRP: Policy Guideline Summary

Deliverable Number	D2.3	Lead Beneficiary	1. TU WIEN
Deliverable Name	Development of NBRP: Policy Guideline Summary		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	30	Work Package No	WP2

Description
Report (~20 pages) in the English; pdf format; contains results of T.2.1.2 and T.2.3 (cross-country summary) and T.2.

Deliverable D3.1 – Policy Needs and Status Quo regarding MEPS

Deliverable Number	D3.1	Lead Beneficiary	2. E-THINK
Deliverable Name	Policy Needs and Status Quo regarding MEPS		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	8	Work Package No	WP3

Description

Report (~20 pages) in the English language (and possibly in national languages of selected focus countries), pdf format; contains results of T.3.1 and T.3.

Deliverable D3.2 – Development of MEPS: Policy Guidelines for Each Focus Country (according to table 2)

Deliverable Number	D3.2	Lead Beneficiary	2. E-THINK
Deliverable Name	Development of MEPS: Policy Guidelines for Each Focus Country (according to table 2)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	28	Work Package No	WP3

Description

Reports (each 10-20 pages) in the English language (and possibly in national languages of selected focus countries), pdf format; contains results of T.3.3 (for selected focus countries)

Deliverable D3.3 – Development of MEPS: Policy Guideline Summary

Deliverable Number	D3.3	Lead Beneficiary	2. E-THINK
Deliverable Name	Development of MEPS: Policy Guideline Summary		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	30	Work Package No	WP3

Description

Report (~20 pages) in the English language (and possibly in national languages of selected focus countries); pdf format; contains results of T.3.

Deliverable D4.1 – Policy Needs and Status Quo regarding BRP

Deliverable Number	D4.1	Lead Beneficiary	3. SERA
Deliverable Name	Policy Needs and Status Quo regarding BRP		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	8	Work Package No	WP4

Description

Report (~20 pages) in the English language (and possibly in national languages of selected focus countries), pdf format; contains results of T.4.1 and T.4.

Deliverable D4.2 – Development of BRP: Policy Guidelines for Each Focus Country (according to table 2)

Deliverable Number	D4.2	Lead Beneficiary	3. SERA
Deliverable Name	Development of BRP: Policy Guidelines for Each Focus Country (according to table 2)		

Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	28	Work Package No	WP4

Description

Reports (each 10-20 pages) in the English language (and possibly in national languages of selected focus countries), pdf format; contains results of T.4.3 (for selected focus countries)

Deliverable D4.3 – Development of BRP: Policy Guideline Summary

Deliverable Number	D4.3	Lead Beneficiary	3. SERA
Deliverable Name	Development of BRP: Policy Guideline Summary		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	30	Work Package No	WP4

Description

Report (~20 pages) in the English language (and possibly in national languages of selected focus countries); pdf format; contains results of T.4.

Deliverable D5.1 – Policy Needs and Status Quo regarding EPC

Deliverable Number	D5.1	Lead Beneficiary	4. ADENE
Deliverable Name	Policy Needs and Status Quo regarding EPC		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	8	Work Package No	WP5

Description

Report (~20 pages) in the English language (and possibly in national languages of selected focus countries), pdf format; contains results of T.5.1 and T.5.

Deliverable D5.2 – Development of EPC: Policy Guidelines for Each Focus Country (according to table 2)

Deliverable Number	D5.2	Lead Beneficiary	4. ADENE
Deliverable Name	Development of EPC: Policy Guidelines for Each Focus Country (according to table 2)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	28	Work Package No	WP5

Description

Reports (each 10-20 pages) in the English language (and possibly in national languages of selected focus countries), pdf format; contains results of T.5.3 (for selected focus countries)

Deliverable D5.3 – Development of EPC: Policy Guideline Summary

Deliverable Number	D5.3	Lead Beneficiary	4. ADENE
Deliverable Name	Development of EPC: Policy Guideline Summary		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	30	Work Package No	WP5

Description
Report (~20 pages) in the English language (and possibly in national languages of selected focus countries); pdf format; contains results of T.5.

Deliverable D6.1 – Summary of Policy Needs

Deliverable Number	D6.1	Lead Beneficiary	5. BPIE
Deliverable Name	Summary of Policy Needs		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	14	Work Package No	WP6

Description
A short report that identifies key policy needs across the EU-27 and highlights the main issues raised by Member States,

Deliverable D6.2 – Is Fitfor55 Fit for Buildings?

Deliverable Number	D6.2	Lead Beneficiary	5. BPIE
Deliverable Name	Is Fitfor55 Fit for Buildings?		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	30	Work Package No	WP6

Description
Report (20-25 pages) in the English language highlighting synergies and interlinkages of legislation across Fitfor55 (e.g.,

Deliverable D6.3 – Concepts for Monitoring, Reporting, and Evaluation

Deliverable Number	D6.3	Lead Beneficiary	5. BPIE
Deliverable Name	Concepts for Monitoring, Reporting, and Evaluation		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	26	Work Package No	WP6

Description
Report (max 50 pages) in the English language, presenting solutions on how to monitor, report, and evaluate policies included in the EPBD

Deliverable D7.1 – Stakeholder Engagement, Communication, and Dissemination Plan, Including Visual Identity

Deliverable Number	D7.1	Lead Beneficiary	5. BPIE
Deliverable Name	Stakeholder Engagement, Communication, and Dissemination Plan, Including Visual Identity		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	3	Work Package No	WP7

Description
The detailed plan covering stakeholder engagement, communication, and dissemination activities, as well as mapping of target stakeholders (subtask 7.1.1)

Deliverable D7.2 – Final Publishable Report

Deliverable Number	D7.2	Lead Beneficiary	5. BPIE
Deliverable Name	Final Publishable Report		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	31	Work Package No	WP7

Description

Deliverable D7.3 – Final report: Stakeholder Engagement Activities and Outcomes

Deliverable Number	D7.3	Lead Beneficiary	5. BPIE
Deliverable Name	Final report: Stakeholder Engagement Activities and Outcomes		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	33	Work Package No	WP7

Description
Narrative report with details on stakeholder engagement, including a table with a list of stakeholders, their typology, and involvement in stakeholder activities. Description of how the community was developed, all activities performed

Deliverable D7.4 – Final Report: Promotional Materials and Channels

Deliverable Number	D7.4	Lead Beneficiary	5. BPIE
Deliverable Name	Final Report: Promotional Materials and Channels		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	33	Work Package No	WP7

Description

Providing details on the development of all communication channels, how the channels were used, and KPIs, including numbers on all digital media aspects

LIST OF MILESTONES

Milestones					
<i>Grant Preparation (Milestones screen) — Enter the info.</i>					
Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
1	Draft Policy Guidelines (Long-Term Target Settings) for focus countries	WP2	1-TU WIEN	Discussion paper (to be understood as a draft D2.2)	18
2	Draft Policy Guidelines (MEPS) for focus countries	WP3	2-E-THINK	Discussion paper (to be understood as a draft D3.1)	18
3	Draft Policy Guidelines (BRP) for focus countries	WP4	3-SERA	The discussion paper and ppt-slide deck are prepared for discussion	18
4	Draft Policy Guidelines (EPC) for focus countries	WP5	4-ADENE	Discussion paper (to be understood as a draft D5.1)	18
5	Identify consistency and potential pitfalls across EPBD policies	WP6	5-BPIE	The internal document describing the links, potential pitfalls, and the checklist for further project activities	12
6	Assessment of draft solutions elaborated in WP2-5	WP6	5-BPIE	Suggestions for increasing the consistency of solutions developed in WP2-5 with the Fitfor55 framework by internal documents and action points	24
7	Draft concepts for monitoring, reporting, and policy evaluation	WP6	5-BPIE	Discussion paper (to be understood as draft D6.3)	18
8	Final selection and specification of focus countries and ToR	WP7	8-EuroACE	ToR with focus country contact points are defined and signed (see subtask 7.2.3)	3
9	Dedicated project page on beneficiaries' websites	WP7	5-BPIE	The project webpage is live and fully operational	4
10	Stakeholder mapping	WP7	5-BPIE	Internal document – Excel sheet is saved on the project intranet and available to all partners for	6

Milestones					
<i>Grant Preparation (Milestones screen) — Enter the info.</i>					
Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
				regular updates. Results of the first outreach are presented in a consortium meeting	
11	Progress report: Stakeholder engagement activities	WP7	5-BPIE	The document is saved on the project intranet and the results shared with partners	

LIST OF CRITICAL RISKS

Critical risks & risk management strategy			
<i>Grant Preparation (Critical Risks screen) — Enter the info.</i>			
Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Lack of understanding of procedures and rules or management tasks (Probability: medium; Impact: medium)	WP1	TU Wien will organize a kick-off meeting with all partners where a project management handbook containing details on implementation procedures and rules will be discussed. Several partners have a dedicated project service department that can assist technical staff with administrative issues.
2	Underestimation of effort (Probability: medium; Impact: medium)	WP1	In this case, we will re-organize the resource use in periodic meetings (technical and/or communication boards, general assemblies).
3	Data availability in one or several focus countries does not allow to comply with the policy needs and expectations and with the NBRP template (Probability: medium; Impact: low)	WP2	In this case, we would describe the data requirements and propose solutions to set up a corresponding database. Moreover, we expect that it should be possible to use default data as a backup from projects such as BuiltHub, building stock data from Invert/EE-Lab, and similar.
4	Replicability of focus-country solutions countries to other EU-MS is not possible due to the very country-	WP4, WP2, WP5, WP3	In this case, we will describe the challenges of replications and discuss solutions to overcome them. In particular, we will provide a list of action points that would need to be considered

Critical risks & risk management strategy			
<i>Grant Preparation (Critical Risks screen) — Enter the info.</i>			
Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
	specific conditions of solutions developed for focus countries (Probability: high; Impact: medium)		for replication to other EU-MS, even if these action points cannot be carried out within the project.
5	Conflicts on technical issues (Probability: low; Impact: medium)	WP4, WP6, WP2, WP5, WP3	The role and task of each partner are well-defined at the moment of the project submission. If the need to perform additional activities not foreseen before submission of the offer arise after the contract start, the Project Manager will re-organize the internal distribution of Tasks.
6	Difficulty in collecting data and information (Probability: medium/high)	WP4, WP6, WP2, WP7, WP5, WP3	Data availability is ensured by partners together, with the availability of an expansive network of supporting organizations and research institutions. Many data sources have been identified. The consortium recurs to the broad network of contacts available at the EU level.
7	Policy makers might want to use own tools to assess the impact of different design options of MEPS (Probability: medium; Impact: low)	WP3	In this case, we would try to cooperate with the policy makers in a way that the results from task 3.3 can serve as a comparison and validation, while the policy guideline document can build on country specific, national tools and models.
8	Delays in stakeholder engagement due to policy processes/elections (Probability: high; Impact: low)	WP7	The sequential order to the four phases (see chapters 1.4 and 3.1) could be adjusted and overlapping of the phases could be allowed. We have foreseen a longer review phase of the draft policy guideline documents of focus countries (WP2-5) in phase 3, which can serve as a buffer.
9	Lack of interest from policy makers or other difficulties in the stakeholder activation process in one of the indicative focus countries (Probability: low; Impact: medium)	WP7	Letters of support are available from all foreseen focus countries. Still, if one or several of these LOS should not hold, the network of Renovate Europe will make sure that we can replace foreseen focus countries by other countries. Corresponding contacts to other Renovate Europe partners have been established.
10	Uncertainty regarding the further developments in the Ukraine and the duration of the war may lead to the circumstance that stakeholder engagement will be difficult or impossible (Probability: medium; Impact: medium)	WP4, WP6, WP2, WP7, WP5, WP3	In this case, a lot of activities described in WP2-6 can be carried out as desk research and exchange with experts or other stakeholders online or abroad. The efforts foreseen for stakeholder engagement within Ukraine would be redirected towards engagement of stakeholders with a relevance for Ukraine, in particular for building up Ukraine after the war.
11	It is not possible to find an agreement between stakeholders and decision makers on the proposed solutions in one or several focus countries (Probability: high; Impact: medium)	WP4, WP2, WP7, WP5, WP3	In this case we would first try to moderate between different decision makers by documenting the different views carefully and reflecting them in the proposed solutions. Second, if this does not change the situation, we will document the different points of view in the policy guideline document, describing in a transparent way the deviating opinions.



TECHNICAL DESCRIPTION (PART B)

TABLE OF CONTENTS

HISTORY OF CHANGES	1
1. RELEVANCE	2
1.1 Background and general project objectives	2
1.2 Specific project objectives	3
1.3 Compliance with LIFE programme objectives and call topic	5
1.4 Concept and methodology	8
1.5 Upscaling results of other EU funded projects	11
1.6 Complementarity with other actions.....	12
1.7 Synergies and co-benefits with other LIFE sub-programmes.....	12
1.8 Synergies and co-benefits with other EU policy areas	13
2. IMPACT	14
2.1 Ambition of the impacts.....	14
2.2 Credibility of the impacts	18
2.3 Sustainability of project results	20
2.4 Exploitation of project results.....	21
2.5 Catalytic potential: Replication and upscaling.....	22
3. IMPLEMENTATION	23
3.1 Work plan.....	23
<i>Timetable</i>	25
3.3 Stakeholder engagement	27
3.4 Impact monitoring and reporting	28
3.5 Communication, dissemination and visibility.....	29
4. RESOURCES	30
4.1 Consortium set-up.....	30
4.2 Project management	32
4.3 Green management	34
5. DESCRIPTION OF PARTICIPANTS	34
Partner 1.....	34
Partner 2.....	37
Partner 3.....	39
Partner 4.....	41
Partner 5.....	42
Partner 6.....	45
Partner 7.....	47
Partner 8.....	49
Partner 9.....	51

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HISTORY OF CHANGES

HISTORY OF CHANGES		
VERSION	PUBLICATION DATE	CHANGE
1.0	16.11.2022	Initial version (proposal submitted to the Portal)
2.0	26.06.2023	Final version includes the following changes to the content: - In Section 2.1, Achievement during project in Table 3 (Expected impact) is formulated more concretely; Expected impact 1a 360 participants are concretized by adding “representing a mix of primary, secondary and tertiary target groups”;

		<ul style="list-style-type: none"> - In Section 2.4 (point e), the following sentence is added for more detail: “Focus country contact points will use the project results and activities as a starting point to intensify their engagement with national, regional and local policymakers after the project has finished. As an example, previous engagement between FCCC, specifically the REC national partners, includes participating in bilateral or stakeholder meetings with national public officials, preparing reports for national Ministries, organising events with the participation of public officials to facilitate debate or raise awareness about policy tools, schemes etc.”; - In Section 3.1, the following sentence is added to address the how the project responds to specific needs of the target countries: “A short summary identifying key policy needs across the EU-27 will be delivered after phase 1 (D6.1, M14). The summary will highlight the main issues raised by MS, without diving into details about each MS, and will be used to guide the implementation of phase 2.” - In Section 3.1, description of the phase 3 is complemented by the following sentence (note: “this step” = clustering EU Member States): “This step will have a slight overlap with phase 2 (i.e. will start in Month 19).” - In Section 4.1, the following sentence is added to clarify how focus countries will be involved: “Focus country contact points that are not part of the consortium, and are national partners of the Renovate Europe Campaign will be kept informed of the project’s developments via the REC monthly newsletters and Contact Calls that are addressed to the EU and national partners of REC. They will have the possibility to contribute to the project’s outputs via the REC Contact Calls, the annual REC plenary and the quarterly calls with the full FCCP group.” - Removal of all irrelevant parts and formatting according to the “3. Guidance Note GAP CET 2022”.

1. RELEVANCE

1.1 Background and general project objectives

Background and general project objectives

Energy and climate targets require a radical increase in efforts for implementing and strengthening policies in the building sector. The proposal for a revised EPBD introduced several elements to reach these goals e.g., zero-emission buildings (ZEB), national building renovation plans (NBRP), and minimum energy performance standards (MEPS). Other instruments are strengthened: building renovation passports (BRP) and energy performance certificates (EPC). Even though the instruments are introduced and proposed as such, many questions regarding the implementation of these instruments are still open. Concretely, these are:

- a. **Zero-emission buildings (ZEB) standard:** The introduction of the ZEB standard is proposed in the draft proposal of the EPBD as a new instrument for target setting. However, there is a **lack of experience on the concrete implications** of ZEB standards on other policy instruments like BRP, setting MEPS, or target setting (e.g., in the NBRP).
- b. **National building renovation plans (NBRP)** are proposed as a follow-up of the former long-term renovation strategies (LTRS). However, up to now, the following is unclear: how the proposed reporting template can work for all MS, the existing data availability situation, how the reporting can be made consistent with other reports like the NECPs, or the comprehensive analysis of efficient heating and

cooling. Also, it is unclear how the data framework supposed to be used for the NBRPs can also be used for regular monitoring, reporting, and policy evaluation.

- c. **Minimum Energy Performance Standards (MEPS)** are proposed as a potentially powerful instrument for pushing building renovation measures, in particular, in the worst-performing share of the building stock. However, the impact depends on the design of the instrument, how stringent measures are (set at which time for which part of the building stock) and how the affordability of measures can be balanced out with the climate targets, and which accompanying instruments might be needed. Thus, there is a need to understand the expected impact of different design options of MEPS better.
- d. **Building renovation passports (BRP)** are proposed to become a much more significant role in guiding staged renovation processes in a properly planned and coordinated way. However, the instrument has to be embedded in a consistent policy framework that needs to reflect targets like ZEB and the NBRP, as well as MEPS, and should not conflict with recommendations provided in EPCs.
- e. **Energy performance certificates (EPC)** were introduced about 20 years ago. Still, there are many challenges in making them an instrument to support and facilitate renovation processes. Moreover, in the context of the proposed recast EPBD, EPCs receive a much more substantial role and higher relevance. E.g., if EPCs should become the basis for implementing MEPS, there needs to be a high, broadly accepted quality standard of information provided in EPCs.

At the same time, recent economic, gas and energy crises have created new, unexpected challenges for policymakers, stakeholders, and building owners and occupants. These new boundary conditions need to be considered in the uptake of new policies and the implementation of the revised EPBD.



NRBPs and ZEB are the two key developments that will have a powerful impact on the long-term plans of Member States (MS) for the building sector. The policy instruments of MEPS, BRPs, and EPCs need to be aligned with the policies laid down in NRBPs and the definition of ZEB. **The objective of our project is to support the MS in the design, implementation, monitoring, and policy evaluation of these instruments to avoid lock-in effects, to provide consistency with the EU's long-term targets, and to ensure that measures are affordable and socially accepted.** Proper design and monitoring of policies can positively impact the energy performance of buildings, improve indoor-air conditions and comfort, and have a positive impact on energy poverty, air quality, and health for building occupants/residents.

Recent reports of BPIE¹ and JRC² showed that reports and strategies like the long-term renovation strategies (LTRS) and the NZEB definition did not comply, in several MS, with certain criteria laid out in the corresponding parts of EU legislation. This shows a strong need to support, in particular, the following MS: BG, CY, CZ, EL, HU, PL, and RO.

Based on these considerations, we selected five countries from this list and added UA as an EU candidate country for our proposed focus countries: BG, CY, CZ, EL, HU, and UA. For these focus countries, we will provide tailor-made policy support. Subsequently, the replication of the results to EU-27 countries will be prepared. At the beginning of the project we will make a final selection of focus countries (also considering PL and RO) (see MS8 and subtask 7.2.3).

1.2 Specific project objectives

Specific project objectives

We will provide support and technical advice to MS to implement the EPBD by developing policy packages and tools tailored to their specific contexts and needs. This will include providing guidelines to the selected MS to implement new policies and instruments (policy design), measure their effectiveness (monitoring, reporting, and evaluation), and adjust to national needs and objectives. This project will provide a set of guidelines and concepts on how to design and monitor the impact of new policies to be integrated within the EPBD, like MEPS, BRPs, and their interaction with EPCs and other policy instruments. This will be guided by: (1) strong engagement with the target group(s) and identification of the most relevant policy needs in the context of the project and (2)

¹ BPIE. Long-term renovation strategies as key instruments to guide local renovation. 2020; BPIE. A review of EU member states' 2020 long-term renovation strategies. 2021;

² Zangheri P. Castellazzi L. D'Agostino D. Economidou M. Ruggieri G. Tsemekidi-Tzeiranaki S. Maduta C. and Bertoldi P. Progress of the Member States in implementing the Energy Performance of Building Directive. 2021

alignment with the targets defined in the Fit-for-55 package and other relevant plans, like NECPs, NBRPs (formerly LTRS), and REPowerEU.

Objective 1: Policymakers in the MS improve their know-how to design and monitor new policies defined in the EPBD and to align them with European, national, and regional short-term and long-term targets

The project will aid policymakers in MS in planning and designing new policies and tools expected to be introduced or substantially amended in the EPBD. In close interaction with policymakers from focus countries, we will co-design policy guidelines (D2.2, D3.2, D4.2, D5.2) addressing core provisions subject to major changes or newly introduced under the EPBD recast (NBRPs, ZEBs, MEPS, BRPs) to facilitate their alignment with EU and national targets.

Objective 2: Policymakers in the MS enhance their understanding of how to secure consistency among policies impacting buildings and how to use these synergies to achieve better impacts

We will assist policymakers in MS in delivering policies consistent with the implementation of legal provisions across energy legislation, policies, and sectors. This will be achieved through integrated analysis of core provisions subject to major changes or newly introduced under the 'Fit for 55' recast and regular exchanges with MS. The aim is to assess the level of ambition of different policies and pieces of legislation addressing the same areas to secure a consistent implementation, avoid lock-in effects and ensure acceptance. The work will not be limited to the EPBD, but it will consider other relevant provisions emerging from the Fitfor55 package and other strategies (e.g., RePowerEU). MS will receive specific guidelines on how to consistently design policies connected through different pieces of legislation (see D6.1 and D6.2).

Objective 3: Policymakers in the MS increase their know-how to integrate effective monitoring and reporting requirements into policy design to allow a continuous and effective policy evaluation

MS will receive guidance on how to design monitoring, reporting, and evaluation into new policies (see D6.3). This will be delivered by combining the consortium expertise and a close dialogue with MS (WP2-5) and stakeholders (WP6 and 7). While the timing of the project will not allow the consortium to support MS in monitoring the impacts of these policies, we will provide guidance and technical advice to MS on how to design and plan for monitoring and evaluation based on the objectives of each policy and their alignment with EU and national objectives. We will provide a set of guidelines, resources, and assessments to monitor the impact of the policy packages at local and national levels. The tools and the data necessary to deliver monitoring, reporting, and evaluation will be identified and, where possible, made accessible to policymakers, representatives of the administration, and stakeholders.

Objective 4: Public administrations in charge of implementing the EPBD will increase their understanding and knowledge of how to plan and design building policies

Through the close support provided to focus countries (see T.7.3) and the link with Concerted Action EPBD (CA EPBD)³, the consortium will engage with public administrations involved in the implementation of the EPBD and provide technical advice and assistance (policy guidelines in WP2-5, D6.3).

Objective 5: Improve collaboration among implementing bodies within and across MS for more effective implementation of the EPBD

The project involves and closely engages with policymakers, public authorities, and agencies responsible for EPBD implementation and with other stakeholders from the construction and real estate sector, energy service companies, NGOs, cooperative building associations, etc. (see T7.3). We will implement an impactful stakeholder engagement process throughout the project in the selected focus countries. This will be done through several channels, like bilateral contacts (subtask 7.3.5), workshop formats (subtask 7.3.1 and 7.3.2), the CA EPBD and the European Energy Network (EnR) (subtask 7.3.4), and the Renovate Europe Campaign partners (subtask 7.2.3 and 7.3.3). We will establish a strong link to the CA EPBD, to which we will provide information, data, and tools and take up requests regarding policy needs specific to the implementation of the EPBD. At the beginning of the project, we will establish interaction with stakeholders to meet the current needs of policymakers (see first tasks of WP2-5).

Objective 6: Build a model for supporting MS in the implementation of EU legislation by creating synergies with existing structures and fora, like CA EPBD and the Renovate Europe Campaign

³ <https://epbd-ca.eu/>

Building on the activities linked with objectives 1 to 5, a replicable model for supporting MS in the design of policies related to the implementation of new EU regulations will be available at the end of the project (see D7.2 and D7.4 describing how to exploit results also in this direction).

1.3 Compliance with LIFE programme objectives and call topic

Compliance with LIFE Programme objectives

As one of the key contributors to the European Green Deal, the LIFE Programme aims to:

- *Transform the EU into a fair and prosperous society with a modern, resource-efficient, and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use*

The decarbonization and transition of the European building sector to a future-proof, resilient, and resource-efficient sector is a key component of the mentioned transformation⁴. The construction and building renovation sector hold a significant share of the European Economy⁵. Moreover, buildings do not only provide essential housing services but are also the basis of a majority of economic services in the tertiary sector. Thus, a high-performing building stock also contributes to higher well-being and productivity of employees⁶. The EPBD (and, in particular, the recast currently under discussion) provides a potentially very powerful policy package. However, its effectiveness will strongly depend on the implementation of the provisions on the national level and how the policies are aligned with other policy needs and challenges. The project will support the MS in the implementation of the revised EPBD considering the context of short and long-term energy and climate challenges and targets. Thus, the project will potentially lead to a considerably more effective implementation of the EPBD and thus facilitate the required transformation process in the building sector, in particular in a selection of focus countries, but also beyond across EU-27.

- *Protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from the environment and climate-related risks and impacts*

This project has the potential to consistently contribute to the EPBD milestone target of decarbonization. The project aims to provide a synergy on the implementation of building renovation policies and their relative instruments across the EU-27 MS. A holistic approach would result in the decrease of CO₂ emissions that harm the environment (e.g., Soil/ocean acidification, melting of the ice caps, etc.). Reducing emissions also contributes to the health and well-being of Europe's citizens through the reduction of the heat island effect, air quality improvement, and more generally, through the reduction of climate change and extreme weather events. In addition to the above-mentioned outcome of the project, regarding a swifter transition of the building stock towards decarbonisation and the related impacts, a high-performing building stock also has multiple positive effects on the health and well-being of citizens through improved comfort and indoor environmental quality⁷. Moreover, a high-performing building stock is also more resilient in terms of heat waves and related risks⁸ and impacts on energy consumption, health, and well-being⁹. By contributing to a more effective implementation of the EPBD, this project will contribute to this target of the LIFE programme.

The specific objectives of the sub-program 'Clean Energy Transition' are the following:

1. *to develop, demonstrate and promote innovative techniques, methods, and approaches for reaching the objectives of the EU legislation and policy on the transition to sustainable renewable energy and increased energy efficiency, and to contribute to the knowledge base and the application of best practice*

This project is directly addressing the implementation of the EPBD as a key pillar of the EU legislation in the mentioned area, in line with and in the context of other policy areas, short-term and long-term policy needs, and

⁴ Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the energy performance of building sectors (recast). 2021; Renovation Wave Strategy. 2020

⁵ <https://www.efbww.eu/activities/construction> and <https://fiiec-statistical-report.eu/en>

⁶ Palacios J. Eichholtz P. and Kok N. Moving to Productivity. 2020; Chatterjee S. and Urge-Vorsatz D. Measuring the Productivity Impacts of Energy-Efficiency. 2021

⁷ Fisk W. Singer B.C. Chan W. R. Association of residential energy efficiency retrofits with indoor environmental quality, comfort, and health: A review of empirical data, 2020; Huang P. Buehler C. Peccia J. Gentner D. R. The climate and health benefits from intensive building energy efficiency improvements. 2021; Wallner P. Tappler P. Munoz U Damberger B. Wanka A. Kundi M. Hutter H.P. Health and Wellbeing of Occupants in Highly Energy Efficient Buildings: A Field Study. 2017

⁸ Alam M. Sanjayan J. Zou P. X. W. Chapter Eleven - Balancing Energy Efficiency and Heat Wave Resilience in Building Design. 2019; Samuelson H. Baniassadi A. Izaga G. Gonzalez P. Beyond energy savings: Investigating the co-benefits of heat resilient architecture. 2022

⁹ Baniassadi A. Heusinger J. Izaga Gonzalez P. Weber S. Co-benefits of energy efficiency in residential buildings. 2022



challenges. Techniques, methods, and approaches developed (partly demonstrated) and promoted in this project are tools, data, procedures, and concepts for the following areas: (1) target setting in the context of zero-emission building (ZEB) definition, scenario development, and renovation planning (national building renovation plans – NBRP, related to WP2), (2) specifying minimum energy performance standards (MEPS, related to WP3), (3) building renovation passports (BRP) for planning staged renovation measures on individual building level (related to WP4), (4) energy performance certificates (EPCs, related to WP5), and (5) reporting, monitoring, and evaluation of the above-mentioned policy instruments (related to WP6 and WP2-5). These approaches will be subject to a rigorous internal and external quality check through extensive discussions with experts, policymakers, and stakeholders, thus contributing to the knowledge base. In each of the policy areas mentioned above, we have foreseen a dedicated activity identifying current best practices. Solutions proposed, developed, and promoted will be based on current best practice knowledge and state-of-the-art.

2. *to support the development, implementation, monitoring, and enforcement of the EU legislation and policy on the transition to sustainable renewable energy or increased energy efficiency, including by improving governance at all levels, in particular through enhancing the capacities of public and private actors and the involvement of civil society*

This project is directly and unambiguously linked to this objective. The overarching project objective of supporting MS in the implementation of the recast EPBD is entirely in line with this target of LIFE-CET. In addition to the development of effective and consistent policy packages, we put a strong focus on monitoring and policy **evaluation of the building stock's transformation and the impact of policy instruments on this transformation** process. The project thus will provide the ground for a continuous updating and discussion of the national policy measures. The first level target group of our project is policymakers, representatives of public authorities, and agencies in charge of the implementation of the EPBD, followed by other stakeholders from the construction and real estate sector, planners, ESCOs, NGOs, etc. We have foreseen a highly intensive engagement process with this target group in 1:1 meetings and workshop series in at least six focus countries and on a higher level for the whole EU-27.

3. *to catalyse the large-scale deployment of successful technical and policy-related solutions for implementing EU legislation on the transition to renewable energy or increased energy efficiency by replicating results, integrating related objectives into other policies and public and private sector practices, mobilizing investment, and improving access to finance*

In each of the policy areas mentioned above (corresponding to WP2-5), we have foreseen one task dealing with the replication of the solutions developed for a set of focus countries to all EU MS. For this purpose, we cluster MS by specific criteria and analyse the replicability of the solutions and concepts to the cluster of these MS. The results will be discussed in dedicated online workshops with representatives of these MS. In addition, the Renovate Europe Campaign, run by EuroACE, will facilitate exchanges on the results of this project with its 18 national partners through a series of structured discussions at its annual Plenary Meeting.

Compliance with the call topic

The given proposal relates to the topic LIFE-CET-POLICY, and it addresses the scope of the topic description in the call document as listed below:

- a. *Promote and enable exchange of insights and sharing of best practices within and across Member States MS*

For each of the policy areas mentioned above (target setting (ZEB and NBRP), MEPS, BRP, EPCs), each of them represented in WP2-5, we have foreseen a dedicated task for identifying currently known good practice examples. The project will support policymakers in the implementation of building renovation policies at the national and regional levels. Therefore, policymakers and stakeholders will be intensively involved in the whole process to allow the development of strategies with a high probability of implementation. On the one hand, we will gain a deep understanding of the impact of the policy instruments, their specific design in the local and national contexts, and the barriers encountered. On the other hand, we will serve as a basis for the formulation of policy guideline documents for use by local and national policymakers. Moreover, we will, within WP7, carry out a series of experience exchange meetings to allow for an exchange of insights between policymakers from focus countries on the one hand and policymakers and experts from other countries with higher experience on a certain instrument of the EPBD on the other hand.

Overall, we cover EU-27, but first, we will develop solutions and results for selected focus countries, which subsequently will be extended to the other MS. In the first layer, we will consider as case study target countries



that show the need for support in the implementation, monitoring, and evaluation of building renovation policy. They will be representative of the potential impact of policy to allow the elaboration of transferable results to the other EU MS, the second layer. Due to the variety of national and regional backgrounds, we will use the blueprint of focus countries based on similar a) climatic conditions b) energy and technology in the heating and cooling sector c) existing policy framework and tradition d) barriers to the implementation of the EPBD. The added value is to provide ground for national and EU policy development through a) the quantification of the effects of the policies in the focus countries and b) ensuring comparability of the results by using the same policy guideline documents for the other EU MS.

- b. Provide support, technical advice and tools for contextualisation and specification of requirements, in general and according to the national and regional context*

All advice activities in EPBD.wise have their starting point in an analysis of policy needs in selected focus countries (and to a lower level of detail on the EU level and in other MS). This will guarantee that we provide support in the project according to the specific requirements of our target group and in line with the national and regional context.

We will contribute to this process with bilateral meetings with policymakers, stakeholders, and experts in the building sector. We aim to open rooms of intensive discussion, exchange, and mutual benefit. We will organize workshops at the local and regional levels to discuss the impact of the implementation of the policy guidelines and target the points to update/revise. Additionally, we will take advantage of the CA EPBD meetings to meet up with policymakers already involved in the EPBD.wise project and possible candidate policymakers interested in contributing to the draft of the guideline documents. We will perform modelling activities to provide a quantitative basis to evaluate the impact of selected policy guideline documents.

- c. Scope, assess and model the impact of implementation options to comply with EU legislative requirements, thereby contributing to the design of more effective policies*

This aspect is the heart of the WP2-6. In particular, in WP3, we will provide a quantitative assessment of different options for MEPS on the effectiveness of the instrument and the resulting energy and GHG savings. In WP6, we will focus intensely on monitoring.

- d. Support the monitoring and evaluation of policy implementation*

Our approach to policy support is based on the underlying paradigm that policy design needs to explicitly consider continuous activities of monitoring, assessment, and update. Thus, the development of concepts for monitoring and evaluation of policy implementation is an essential element of the project (WP6 and, to some extent, WP2-5). On the one hand, we will provide a dedicated report and policy guideline for effective monitoring and policy evaluation procedures, including data requirements, consistency with data formats, and other reporting activities, e.g., the NECPs. On the other hand, the monitoring, reporting, and evaluation will be integrated into the essential outputs of all policy fields, the policy guideline documents.

- e. Develop and apply methodologies to more accurately measure, calculate and account for contributions made under the specific policy measures and programmes*

Corresponding to scope (iv), we will integrate concepts and approaches for more accurate measurement and evaluation of policy measures in the related policy guideline documents. Moreover, we dedicate a separate task to the development of effective concepts, methodologies, and approaches for measuring policy impact.

While this scope is relevant to some extent for all policy areas, we will, in particular, deal with it under the topic of the NBRPs, since they are expected to reflect the impact of various policy instruments. We will develop such policy-driven scenarios for selected focus countries and discuss possibilities for replication in other countries.

- f. Develop and support integrated methodologies for areas and sectors that are addressed by different policies and pieces of legislation, notably approaches for integrated collection of data, calculation/accounting, verification, monitoring, evaluation and reporting*

The monitoring and reporting concepts developed and promoted within EPBD.wise will consider as far as possible the links to other policy areas and legislation. For this purpose, we dedicate a task to overseeing the different policy areas beyond the EPBD. In this task, we will address potential conflicts and inconsistencies across legislation and provide ways how to consider links to other policy frameworks in the policy areas of target setting, MEPS, BRP, and EPCs (i.e., WP2-5).

- g. Monitor and model energy and non-energy impacts of integrated solutions; gather data for the energy and buildings sector*

In the context of national building renovation plans and target setting (WP2), we will discuss the wider benefits of the high energy performance of the building stock. These wider benefits can comprise increased comfort,



health impacts, or higher resilience toward energy prices and supply shocks. Without considering them, a crucial element for a solid decision-making process is missing.

Moreover, the call topic lists the following points: *Address core provisions and aspects of the EPBD, in particular, those that are subject to major changes or that have been newly introduced under the 'Fit for 55' recast. These are for example Minimum Energy Performance standards, National Building Renovation plans, Renovation passports, zero-emission buildings, and infrastructure for sustainable mobility.*

EPBD.wise has dedicated a separate WP each for the following topics listed above: MEPS (WP3), NBRPs (WP2), and BRPs (WP4) and has integrated the impact of zero-emission building definition on the other policy areas within WP2. Moreover, compliance with the overall policy framework, like the Fit-for-55 recast, is part of a dedicated task in WP6.

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1.4 Concept and methodology

Concept and methodology

Barriers to effective EPBD implementation

Looking at the previous implementation of the EPBD, we can identify considerable differences between countries in terms of timely delivery of strategies and reports, ambition level, data availability, and monitoring activities of policy impact. The following main barriers have been identified as critical reasons for compliance¹⁰:

- a. **Poor governance:** Often, insufficient collaboration between regional, federal and municipal levels (vertical and horizontal) forms a barrier, e.g., regarding data access and utilization. For example, Technical Building Systems are dealt with by other departments than the ones dealing with the EPC (or climate and energy policies). Another example of poor governance is the lack of consideration for stakeholder participation, including civil society. Partly, know-how is available, which is not being used in the policy process. Having said this, biased stakeholder participation might also be detrimental to effective policymaking.
- b. **Staff shortage in public administration:** Some units in public authorities lack staff capacities to develop effective policies. Partly this is due to a lack of priority setting of decision makers (and the general public awareness), partly due to inertia in bureaucratic procedures and poor governance (see above).
- c. **Lacking data availability, accessibility, and quality:** Effective policymaking needs data. That includes data for understanding the potential impact of policies and different design options and data for monitoring the progress in the building stock and evaluating the policy impact. Often, this data is unavailable, and no plans (or budget) exist to either close the data gaps or carry out sufficiently reliable estimations and approximations. Plenty of data would be available, e.g., from EPCs, which are, however, partly not accessible in a digital format or show low quality.
- d. **Lack of know-how for estimation of the impacts, in particular the broader benefits of energy efficiency:** There is a complex interplay between different instruments, effects, and measures that must be considered for assessing the impacts of policy instruments addressing the energy performance of the building stock, which need to be discussed and considered in policy analyses. Only recently, with intensely increasing energy prices, a higher awareness of the (economic) benefits of energy efficiency emerged. Still, other benefits like comfort, health, and economic implications are often not explicitly considered in the decision-making processes of target setting.

Needs and constraints of policymakers in charge of EPBD implementation

Recent energy price jumps led to much higher viability of energy renovation measures and decarbonization of the building stock. Also, high gas prices and shortages increased the overall awareness and the relevance of a resilient energy system. At the same time, the war in Ukraine and other crises led to supply chain interruptions, delays, and cost increases in the construction sector in general and also for energy renovation measures. This might hamper the acceptance of strong policy measures like renovation obligations.

The prevailing economic situation also led to more difficult financial and budget constraints: Some MS have limited access to financing instruments or have inadequate financial schemes. For some MS, energy-efficient buildings are of less strategic importance than decarbonizing energy supply. This affects the budget allocated for sustainable buildings, and residents cannot benefit from renovation programs. The European Consumer

¹⁰ BPIE. The make-or-break decade: making the EPBD fit for 2020. 2021

Association has already stated that recast EPBD lacks real financial support for consumers to switch to decarbonized solutions¹¹.

CA EPBD is available as a platform for exchange for policymakers on the national level. This platform turned out to be especially relevant and significant in the past for building a network of decision-makers and experts and regularly exchanging on specific topics, also building long-lasting relationships and trust. However, in-depth analyses and the development of tailor-made solutions are not foreseen within the CA EPBD. Thus, there is a need for more in-depth analyses and support for MS, in particular, for topics that have been introduced recently or whose relevance has changed (see part 1.1).

For each of these policy instruments, there is a need for improved data, models, tools, answers to legal questions, and support in the stakeholder engagement process. In addition, there is a strong interlinkage between these policy instruments. Thus, the solutions need to cover the complex interaction between the instruments.

Needs and constraints of other stakeholders affecting EPBD implementation

Construction industry and labour and skill shortages: Investment in workforce capacity and upskilling is necessary to ensure there is a sufficiently large and skilled workforce to be able to deliver the EPBD objectives, but fragmented supply chains in the construction sector can make such investment a challenge. In terms of overall investment in the construction industry, a clear and stable regulatory framework is needed to trigger long-term investment and allow the workforce, materials, financing, and support schemes to align. Challenges can only be addressed through sustained cooperation between government, industry, social partners, professional bodies and networks, and education and training providers.

Building owners: Access to attractive financing instruments is key. Mainly for residential buildings, advisory and technical assistance facilities such as BRP and one-stop shops have a key role to play for homeowners in navigating complex decision-making processes. Finally, building owners respond well to clear, transparent, and reliable targets, such as MEPS.

Building occupants: High energy prices are putting an increasing financial burden on the poorest European households. Implementing effective EPBD measures is the most sustainable long-term solution to permanently shelter citizens from energy price hikes while providing much-needed co-benefits such as improved indoor environment and health, reduced energy poverty, and better quality of life.

Financial institutions are increasingly becoming involved in financing the renovation and construction of buildings. The Taxonomy represents a key milestone in the establishment of a classification framework for sustainable investments in buildings. As of 2023, banks will also be required to publish their loans collateralized by immovable property per EPC category. A clear and transparent EPBD implementation will help financial institutions develop financing instruments and provide more financing, especially for renovation.

Civil society: The revision of the EPBD is a pre-condition to meet the objectives set out in the Renovation Wave. The EPBD revision will also be instrumental in achieving a future-proof, highly energy efficient, and decarbonized building stock in the EU by 2050. The low renovation rates and depth give a strong impetus to the need to strengthen regulatory and non-regulatory measures for energy renovations in the EPBD.

Intervention logic

The following table outlines our intervention approach and expected results by policy need.

Table 1: Intervention approach with expected results

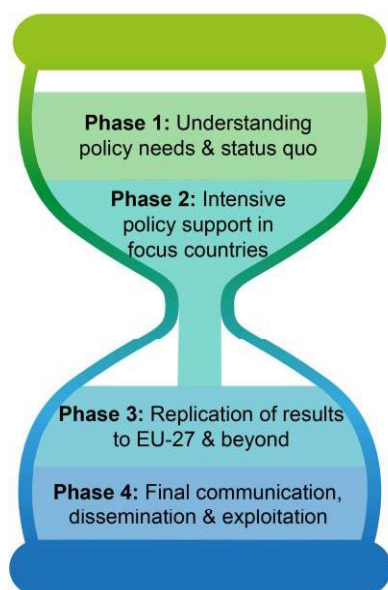
Barrier	Our intervention approach	Results
Poor governance	Initiate a stakeholder engagement process including, if possible, all institutions relevant to EPBD implementation	Institutions and stakeholders in focus countries are gathered in 'policy forum' formats; learnings from the process are included in policy recommendations
Staff shortage	Provide tailor-made analyses and support for EPBD implementation along most needed topics based on existing good practice examples and new, innovative solutions	Public authorities receive information, data, tools, and answers to their specific needs
Lack of data	Provide approaches to collecting data and how to estimate data based on publicly available data; in particular, the use of this data for monitoring, reporting, and policy evaluation purposes will be demonstrated	Estimating data helps to not remain stuck in the data trap, while approaches, methods, and concepts to gather data open up solutions for the mid-to-long term

¹¹ BEUC. How to make energy efficiency improvements work for consumers. 2021

Lack of know-how in impact estimation	Describe, develop, and/or replicate approaches to estimate the expected impact of measures, including a discussion of the potential broader benefits	Public authorities learn how to estimate the impact policy instruments as a basis for decision-making processes
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Our first-order target group is regional and national authorities. Besides bilateral contacts and the LoS collected in the proposal phase, we will build on the personal contacts between project partners and persons involved in the CA EPBD. Also, the network of energy agencies will be used as leverage for this exchange. Other stakeholders like industry representatives, NGOs, the real estate sector, and EU Policymakers will be addressed as a second-order target group in the stakeholder process. In particular, the Renovate Europe Campaign, run by EuroACE, will support the exchange with relevant stakeholders, including the construction industry. We have shown interest in first-order and second-order target groups through letters of support in the annex of the proposal. The main purpose of stakeholder involvement is to create and strengthen societal support for implementing EPBD-related national and regional legislation.

The intervention logic of our project follows four phases: (1) understanding and specifying policy needs, (2) first round of policy support, drafting and discussing policy guideline documents for a selection of countries and policymakers, (3) second round of policy support, providing the ground for replicating the blueprints developed to all EU MS and (4) final communication, dissemination, and exploitation effort.



These phases will be described in more detail below:

Phase 1: Understanding and specifying policy needs

Important mid- and long-term targets regarding climate neutrality are already determined by documents like the Fit-for-55 package or the renovation wave regarding climate neutrality. However, some short- and mid-term policy challenges and targets might change, in particular in the current situation after Russia invaded Ukraine and the effects on energy markets. Also, at the moment of writing, the EPBD recast is still ongoing, and the final text of the directive is not yet available. Furthermore, the MS are facing individual challenges, such as the dependency on certain energy carriers, the overall economic situation, or the availability of skilled workers. Also, data availability or the status of an EPC database might be differing. All this needs to be considered. Thus, in this phase, we will gather the policies related to building renovation both in the EU Commission requirements, like the Fit-for-55

package and the renovation wave, and in the frame of the EU-27 MS' long-term building renovation targets. We also acknowledge the fact that the short and mid-term policies, particularly in the adjustment of the mid-term targets, are heavily influenced by the new geopolitical and energy market realities and by the challenges the MS are facing in this respect. This will result in a specification of the policy guideline documents, which will be drafted in phase 2 as an essential means of policy support. As methods, we will carry out bilateral face-to-face meetings, policy forums, and desk research, e.g., on the status of existing LTRS or other documents. CA EPBD meetings will be used as a platform for discussing with relevant policymakers across the EU.

Phase 2: First round of policy support

In the second phase, we will closely engage with policymakers and stakeholders from the focus countries to iteratively discuss policy recommendations and guidelines. These will be provided for each policy instrument considering the overall consistency of the policy package. Each document will include guidelines for (1) the design of the instrument, (2) the implementation of the instrument, (3) the monitoring and evaluation, and (4) embedding the instrument in a consistent policy package.

We will have bilateral meetings and analytical activities to successfully target the policymakers and stakeholders. As for phase I, the CA EPBD meeting is a platform for discussion. Linked to the CA EPBD, we will have discussions and exchanges with policymakers from focus countries. Furthermore, policymakers from other interested countries could also participate in targeted discussions while saving time, money, energy, and CO₂ emissions for extra traveling. We also plan to organize workshops and meetings with policymakers to review policy guidelines and acquire insights into their efficiency. Through research activities, we will offer quantitative and analytical modelling to evaluate the policies and identify solutions.

The innovative character of the energy efficiency policy measures promoted by the project entails the need to determine their legal design in more detail at the EU and national levels, where implementation needs to be ensured. Therefore, a legal study is planned for specific topics to be identified during phase 1 of the project and

might involve legal research through case studies, comparison between MS' legal systems and practices, legal and/or policy input to the proposed guidelines, etc.

Phase 3: Second round of policy support and replication

In the third phase, we will engage in the second round of policy support. We will use the results developed in Phase 2 as a blueprint to provide the ground of replication to all EU MS. We expect that during this phase, we will adjust the policy guidelines developed in Phase 2, and we will finalize the draft. Regional and national policymakers, authorities, and supporting agencies are our first target group. As for Phase 2, the CA EPBD meetings will be used for discussion and exchange with relevant policymakers. Besides bilateral contacts and the LoS collected in the proposal phase, we will build on the personal contacts between project partners and persons involved in the CA EPBD and EnR. The main purpose of stakeholder involvement is to create and strengthen societal support for implementing EPBD-related national and regional legislation. The Renovate Europe Campaign, run by EuroACE, will support the exchange with relevant stakeholders, including the construction industry. The analytical approach will complete the above methods. This will result in a comprehensive set of tools for policy monitoring, evaluation, and improvement. Based on the current data, we will cluster the MS according to their challenges in implementing certain EPBD instruments. For these clusters of the MS, we will discuss the replication of developed solutions in dedicated webinars. This would favour successful replication to the other MS, identifying what is common across the EU MS and what should be further revised/improved.

Regional scope and focuses

In general, our project covers EU-27, while selected activities and results (specified above and in the WP descriptions) will be provided for the focus countries only. During the proposal preparation, we gathered the needs of policymakers in focus countries by topics (see LoS):

Table 2: Points of interest for focus countries

	ZEB (only for status quo review)	NBRP	MEPS	BRP	EPC
BG	X	X	X		
CY	X	X	X	X	
CZ	X		X	X	X
EL	X	X	X		
HU	X	X		X	X
UA	X	X		X	X
Potentially there will be a selection of other countries in the first months of the project (see MS8 and subtask 7.2.2).					

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1.5 Upscaling results of other EU funded projects

Upscaling results of other EU funded projects

The work will strongly build on projects covering topics and policies relevant to the implementation of the recast EPBD and the lessons learned from their implementation. This could include quantitative and qualitative analysis, stakeholder engagement, legal and administrative screening, and evaluation techniques.

- **CA EPBD VI:** This initiative addresses the Energy Performance of Buildings Directive (EPBD) and aims to contribute to the reduction of energy use in European buildings through the exchange of knowledge and best practices in the field of energy efficiency and energy savings between all 27 EU MS plus Norway. CA EPBD is a trusted forum by MS and allows them to exchange on how to implement EPBD. Since both this proposal and the upcoming **CA EPBD VI** share members (EPBD.wise WP leaders and CA EPBD Core Theme Leaders), the deliverables of this project will feed into the discussion within the CA EPBD expanding and improving the depth of discussion and outputs of the CA sessions. Also, we will build on experience coming from the **CA EPBD V** (both from the project partners and country reports).
- The **nextGenEPC-sister project cluster** will be useful for the design of building renovation passports and the update of EPCs:
- **iBRoad, iBRoad2EPC, Timepac:** provide relevant insights for the design of building renovation passports, from conceptualization (iBRoad) to synergies with EPCs (iBRoad2EPC) and application (TIMEPAC)
- **X-tendo:** Provides the basis for further improvement of EPC schemes, e.g., related to EPC databases, enhanced recommendations, building logbooks, or one-stop shops.
- **BuiltHub, Moderate, Enerfund, Ambience, BSO:** These projects deal in detail with the building stock data and how to improve the quality, reliability, and visualization of building stock data. All this is



relevant for policy evaluation, monitoring, and reporting, in particular, for the development of NBRPs (WP2) and the monitoring and policy evaluation in WP3-5 and WP6. We will build on the most recent and up-to-date methods from these projects for gathering and visualizing building stock data.

- **Enefirst, NewTrends, and ECEMF delivered scenarios for the potential evolution of buildings' energy demand and supply.** Results, data, and methods will be used for all scenario-related activities, e.g., regarding NBRP (WP2) and MEPS (WP3).
- **Combi and EMBuild:** Broader benefits of efficiency improvements in the building sector, potentially to be considered in NBRPs (WP2)
- **ConstructSkills4LIFE:** We will use the know-how regarding the need for upgrading training schemes for building workers and building up demand for skilled workers to boost sustainable construction in Hungary in the context of the EPBD implementation.
- **CapaCITIES:** We will build on the project's national networks and governance structures and the way how to provide dedicated support for public authorities to put enabling conditions and measures in place.

1.6 Complementarity with other actions

Complementarity with other actions

EPBD.wise is not only relevant for the implementation of the Energy Performance of Buildings Directives (EPBD) but also relates to the Fit-for-55 package (e.g., EED, RED), the elaboration of National Energy and Climate Plans (NECPs) and the REPowerEU strategy.

- The revision of the EPBD is part of the 'Fit-for-55' package, which aims to reduce 55% of greenhouse gas (GHG) emissions. In such a frame, the EPBD recast aims to accelerate building renovation depth and rates, reduce GHG emissions and energy consumption, and promote increased use of renewables. The recast directive, which is still under revision and is expected to be adopted in 2023, proposes the introduction of several new concepts (for example, MEPS and ZEB), the strengthening of the Building Renovation Passport that is currently voluntary and not much defined and the revision of consolidated instruments like the EPCs. It is not possible to foresee now which of these changes will be agreed upon and adopted, but we can expect that under the subsidiarity principle, MS will have some flexibility to refine definitions (i.e., ZEB) and design new policies (i.e., MEPS) In the frame of the EPBD.wise project, partners using their knowledge and experience on the selected topics, will support MS in the design of these policies and plans.
- The energy efficiency directive (EED), part of the Fitfor55, requires MS to include the energy efficiency targets in their national plans and link them to financial support, the promotion of clean energy, and building renovation. EU-27 must renovate 3% of their public buildings and reduce energy consumption by up to 39%. These plans are expected to include measures related to building renovation. The project will provide a quantitative analysis of the impact of the EED policies in the building sector and assist national policymakers to update them to secure better implementation and impact.
- The national energy and climate plans (NECPs) are the instruments MS must use to outline their climate and energy goals, policies, and measures. EU countries apply the same template based on the Governance Regulation to draw up national energy and climate plans; however, the actual planning often only includes a short section on buildings. EPBD.wise will investigate how the NECPs can be improved, as a tool to consistently monitor and report national energy plans and facilitate the comparisons across the MS.
- RePowerEU: In light of the Ukrainian conflict, the European Commission intends to make Europe independent from Russian fossil fuels, and through the REPowerEU action plan, it has proposed to adopt a series of measures to make it happen (e.g., diversification of energy supplies, increase energy saving, use of clean energy, etc.). The REPowerEU pushes the green transition, e.g., by further supporting the energy targets proposed in the EED or building renovation through the EPBD.

Some partners of the project consortium were directly involved in EPBD implementation activities, or reporting activities on the national level, such as EMI coordinating the Hungarian LTRS, SERA being involved in the Austrian SRI test phase, ADENE managing the Portuguese EPC scheme, and more. These experiences will feed into the definition of the overall policy context of EPBD.wise, the identification of policy needs, and the status quo description of EPBD policy instruments.

1.7 Synergies and co-benefits with other LIFE sub-programmes



Synergies and co-benefits with other LIFE sub-programmes

There are several synergies among the EPBD.wise project and LIFE sub-programs:

Nature and Biodiversity: EPBD.wise will support policies to meet the local and national plans for reducing GHG emissions, which will result in the protection, maintenance, and **restoration of the EU's natural capital**. The EPBD promotes several actions, such as promoting green and renewable energies, promoting energy savings, and decreasing the use of fossil fuels. These actions will enhance air quality and, consequently, human health and will have a positive impact on the natural environment in terms of the preservation of natural habitats. In addition, the construction of green and bio-solar rooftops, which integrate solar installations and vegetation, will further increase/contribute to urban biodiversity preservation.

Climate Change Mitigation and Adaptation: One of the objectives of this sub-program is to reduce GHG emissions. The building sector is responsible for about 40% of energy consumption and about 36% of the EU's GHG emissions, partly from the direct use of fossil fuels and partly from the production of electricity and heat. The EPBD recast is the main legislative instrument to improve the energy efficiency of buildings and decarbonize building stocks. The EPBD is closely connected with the EU climate targets and adaptation efforts. One of our objectives is to support policymakers to better implement and tailor the EPBD policies and instruments to the national context and effectively tackle the decarbonization of the building sector. These points relate the adaption of nations and regions to climate change. In addition, dissemination and communication activities promoted by BPIE will contribute to the information on guidelines on how to implement the EPBDs and property changes.

Circular Economy and Quality of Life: the EPBD.wise project will contribute to facilitating the transition toward a sustainable, energy-efficient, and climate-resilient economy. In particular, the national building renovation plans (NBRPs) embed a series of green renovation initiatives that will boost economic recovery and growth. Renovation policies work together with broad-based support, like green bonds and investment funds, and national incentives to renovate existing buildings. By investing in energy renovation, the government and cities can help to (1) speed up economic recovery: the GDP is expected to increase because the private sector will most likely invest in renovation plans, thus preserving and creating new jobs, especially green jobs. The construction sector accounts for 7,5% of total European employment, 28,1% of industrial employment¹², and **contributes to about 9% of the EU's GDP**¹³. Furthermore, energy renovation is a cost-effective strategy to enable Small and Medium enterprises (SMEs) to get back to work in the building sector. SMEs account for 80 to 90% of employment¹⁴, and getting them back to work will create immediate benefits within local economies (2) to contribute to the growth of a circular economy. Policies and financial support for the renovation of existing buildings will reduce the use of new materials. Minimizing resources and using sustainable materials will reduce greenhouse gas emissions and accelerate the achievement of climate neutrality and contribute to mitigating climate change by avoiding emissions associated with the extraction and processing of new resources (3) to improve the health of European citizens. A poor housing system can seriously affect human health, resulting in an economic cost for the healthcare system. Moreover, the COVID pandemic crisis has stressed the importance of providing citizens with safe, sustainable, and comfortable houses. In conclusion, by investing in energy renovation, governments and cities can help their populations recover economically, recuperate mentally, and relax healthily. With T.6.4, we introduce an outlook to aspects going beyond the narrow scope of the EPBD toward consideration of circular economy, nature-based solutions, etc.

1.8 Synergies and co-benefits with other EU policy areas

Synergies and co-benefits with other EU policy areas

EPBD.wise project has several synergies and spillover effects among EU policy areas such as agriculture, health, civil protection, job creation, and economic growth:

Agriculture: EPBD.wise will support policymakers and other stakeholders to consistently reduce GHG emissions and reduce the negative overall environmental impact of the building sector on soil, acidification, air pollution, CO2 emissions, and factors that harm agriculture production sites. This leads to less polluted agriculture and more sustainable food production and consumption.

¹² <https://www.efbww.eu/activities/construction>

¹³ https://single-market-economy.ec.europa.eu/sectors/construction_en

¹⁴ Leap4SME. Mapping SMEs in Europe. 2021

Health: A reduction of GHG emissions also minimizes air pollution due to avoiding fossil fuels, which means fewer pollutants in food and consequently a reduction of health issues for humans. Furthermore, the EU Renovation Wave Initiative boosts both energy efficiency and the quality of the indoor environment, such as appropriate indoor air quality, humancentric lighting acoustic, thermal comfort and control, and automation systems. Thus, it improves the health and well-being of occupants, like the reduction of respiratory infections.

Job creation and economic growth: By investing in energy renovation, the government and cities can help to speed up economic recovery: The GDP will increase because the private sector will invest in renovation measures, thus preserving and creating new jobs, especially green jobs. Furthermore, energy renovation is a cost-effective strategy to enable Small and Medium enterprises (SMEs) to get back to work in the building sector. SMEs account for 80 to 90% of employment, and getting them back to work will create immediate benefits within local economies.

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2. IMPACT

Fill in **only** sections 2.1-2.3 at stage 1 (concept note). Fill in **all sections** at stage 2 (full proposal).

2.1 Ambition of the impacts

Ambition of the impacts			
The expected impacts according to the topic description are first outlined in table format below and then discussed in more detail:			
<i>Table 3: Summary of expected impacts</i>			
Impact indicator	Impact number	Achievement during project	Achievement 5 years after
# of participants in interactive policy forums in focus countries	1, 2, 5, 6, 7, 8	360 participants in focus countries representing primary and secondary target groups: national and local agencies, ministries and EU level policy makers, in 12 policy forums; ; the first round of policy forums will be dedicated to policy needs, good practice examples, and market barriers	Participants in policy forums intensify their collaboration and increase exchange in focus countries (via webinars and events, workshops, and meetings)
# of participants in workshops organized with CA EPBD and EnR	1, 2, 7, 8	At least 80 participants representing primary and secondary target groups: National and local agencies and ministries	Participants from at least 10 MS further increase their cooperation and carry out joint policy development based on solutions proposed in EPBD.wise
# of participants in replication webinars	1, 2, 7, 8	At least 350 stakeholders covering primary and secondary target groups from the MS Clusters are addressed in replication webinars, in addition to stakeholders from tertiary target groups.	Participants from at least 5 MS further increase their cooperation and carry out joint policy development based on solutions proposed in EPBD.wise
# of participants in the final conference	1, 2	100 stakeholders representing the primary and secondary target group from focus countries and the other EU MS	n/a
# of participants reached in C4E Forum and Renovate Europe plenary meetings		EPBD.wise will be present at four C4E Forum and Renovate Europe plenary meetings and reach a total of 300 participants	n/a
Participants in cross-national online workshops	1, 2	At least 250 invited experts representing primary and secondary target groups in focused workshops	Further increased intensity in existing networks; new collaborations
In-depth 1-1 meetings with persons from implementing bodies	2, 5, 6, 7, 8	At least 24 meetings from at least six focus countries; about half of the meetings will discuss policy needs, good practice examples, and market barriers	Focus country contact points build on the trust and networks established within EPBD.wise to support policymakers further and contribute to effective policy processes

Bilateral discussions with policymakers at the EU level	2	At least 24 EU level policymakers in EU Commission and potentially EU Parliament	The consortium will build on the established networks for further exploitation of results on the EU level
Building a network of experts, stakeholders, key actors, and policymakers in focus countries	1, 2	360 persons representing stakeholders from primary, secondary and tertiary target groups from at least six focus countries involved	A growing number (~500) with partly strongly intensified contacts due to collaboration, continuing discussion rounds, and consulting projects; organised through focus country contact points (EMI, HMRSC, Renovate Europe national partners to be sub-contracted by EuroACE)
Reference to EPBD.wise in policy documents or corresponding testimonials of policymakers	3	At least four references in policy documents (strategies, legal acts, reports to the Commission) or eight testimonials from policymakers in charge of EPBD implementation	We expect that due to the targeted communication of project results and the close interaction with multiplying networks (CA EPBD, EnR, Renovate Europe, etc.), at least half of the EU MS take up recommendations developed in WP2-6
Create lasting engagement with the CA EPBD	1, 2	At least two workshops in collaboration with CA EPBD (during official meetings or back-to-back)	Creation of CA EPBD working group on monitoring and evaluation of new instruments
# of NBRPs supported	4, 5, 6, 7, 8,	NBRPs in at least three focus countries will be supported, including related monitoring mechanisms	At least eight MS will explicitly use components of the NBRP policy guidelines (D2.2, D2.3)
# of MEPS designed	4, 5, 6, 7, 8	Design of MEPS in at least three focus countries will be developed, including related monitoring mechanisms	At least eight MS will explicitly use components of the MEPS policy guidelines (D3.2, D3.3)
# of BRP schemes supported	4, 5, 6, 7, 8	BRP schemes in at least three focus countries will be supported, including related monitoring mechanisms	At least eight MS will explicitly use components of the BRP policy guidelines (D5.2, D5.3)
# of EPC schemes improvements developed	4, 5, 6, 7, 8	Improvements in EPC schemes in at least three focus countries will be developed, including related monitoring mechanisms	At least eight MS will explicitly use components of the EPC policy guidelines (D6.2, D6.3)
# of developed policy solutions improving the link to other energy policy domains explicitly	3	At least six of the developed policy solutions will explicitly improve the link to other energy policy domains	Reporting and policy monitoring will be stronger streamlined between energy policy domains (e.g., templates of different reports will be aligned, and timing will be aligned)
# of developed policy solutions supporting effective planning, e.g., H&C networks	7	At least six of the developed policy solutions will explicitly support effective planning	At least six MS improve data accessibility for the planning of heating and cooling networks. Trust of market actors in policy stringency increases.
Primary energy savings	9	100 GWh/yr triggered by the project	8595 GWh/yr triggered by the project
Renewable energy generation	9	28 GWh/yr triggered by the project	2325 GWh/yr triggered by the project
Investments in sustainable energy	10	94 million € triggered by the project	10270 million € (cumulated investments) triggered by the project

For further communication and dissemination activities and related impacts see chapter 3.5.

Expected impact 1: “Improved collaboration of implementing bodies within and across the MS”

- a. **Improved collaboration within MS:** EPBD.wise will initiate a process in at least six focus countries, including, among others, 12 policy forums (full-day events) with at least 360 participants representing a mix of primary, secondary and tertiary target groups, including at least six implementing bodies in total. The events will gather relevant implementing bodies, potentially from different regional levels and from different public institutions, involved in the implementation of the EPBD (for details, see subtask 7.3.1 and part 3.3). We expect this will improve the quality of implementing bodies and their representatives and a higher level of agreement on required policy decisions and policy design elements. Focus country



contact points (EMI, HMRSC, and Renovate Europe national partners, sub-contracted through EuroACE, see part 3.3) will also use these activities as a starting point for intensifying network activities beyond the project duration.

- b. **Improved collaboration across MS:** EPBD.wise will create a lively and strong interaction with the CA EPBD platform and the EnR (see subtask 7.3.4). We will use the CEPBD to better understand policy needs and identify good practice experiences among MS. At the same time, we will also provide in-depth info and feedback on the policy solutions proposed for focus countries and their potential application to other countries. We will organize at least 2 workshops with at least 80 participants, representing primary and secondary target groups, national and local agencies and ministries, in cooperation with the CA EPBD or EnR events to discuss in more detail concrete policy solutions for design, implementation, monitoring, reporting, and evaluation. Since the CA EPBD will continue beyond the duration of EPBD.wise, we expect that the new, intensified forms of interaction and collaboration on specific topics of EPBD implementation will even further enhance the quality and intensity of the cooperation within the CA EPBD. Moreover, we will organize 4-5 webinars to discuss the replication of results initially developed for focus countries with groups of the MS (see subtask 7.3.8), allowing the identification of similarities and synergies and improving the collaboration between implementing bodies and institutions. Organize a final conference to improve the collaboration between actors through the active involvement of policymakers from different MS and on the EU level (subtask 7.3.9).

Expected impact 2: “Increased understanding and knowledge of public administrations in charge of implementing European energy legislation”

To increase the knowledge and understanding in public administrations of design solutions for the implementation of EPBD, we will discuss and communicate the findings of our analytical work in at least 24 in-depth bilateral meetings with public administrations in charge of EPBD implementation, in at least 6 MS (see subtask 7.3.7), in addition to the activities mentioned under impact 1. These findings will be based on aspects developed in WP2-5 and WP6. They will be tailor-made for the needs of policymakers in focus countries and be based on existing best practice examples (see corresponding tasks in WP2-5). The documentation of these meetings (agenda and minutes) will indicate key discussion points, possible concerns, and suggestions for additional analysis and work. The documentation will also serve as proof of the increased understanding and knowledge in public administrations regarding EPBD implementation.

Expected impact 3: “More effective implementation of provisions, including better planning, design, and evaluation of policy measures” and “more consistent implementation of legal provisions across energy legislation, energy policy, and energy sectors”

WP2-6 will develop solutions and recommendations for the design, implementation, and evaluation of policies tailor-made to the needs of policymakers in focus countries, in line with EU policy targets. WP6 will put a special focus on monitoring, reporting, and evaluation of policies. Moreover, WP6 is dedicated to ensuring the consistency of policy packages. This will be done within the different instruments of the EPBD and across the overall energy policy context (FitFor55, REPowerEU, etc). Also, we will put a special focus on the link with other directives, e.g., the heating and cooling strategies, EED, or RED.

The stakeholder engagement process described in 3.3, WP7, and outlined above will create the impact that public authorities use tools developed by EPBD.wise to design effective provisions for the implementation of the EPBD. Indicator to measure this impact: At least four references (by the body involved in implementing the EPBD) in regional, national or European policy documents (strategies, legal acts, reports to the Commission) to the guidelines or related deliverables developed in the project or corresponding testimonials of policymakers, stating how EPBD.wise results were used in the implementation of the EPBD and for conceptualizing evaluation of policy measures.

Expected impact 4: “Use of appropriate tools and methods that facilitate availability and access to data; improved quality of data and better monitoring”

Each of the WP2-5 addresses specific challenges and develops appropriate tools and methods addressing data availability and accessibility. In particular, for the development of NBRPs (WP2) and MEPS (WP3), data for, e.g., the building stock is key. Also, tools are required to make use of this data and derive evidence-based strategies for decarbonizing and substantially improving the building stock energy performance. WP2 and WP3 will deliver such solutions, building on ongoing projects for improving building stock databases (e.g., BuiltHub, Moderate, Enerfund, and BSO-update) and existing modeling and data tools (e.g., Invert).

Each of the policy guidelines developed in WP2-5 will include relevant aspects on how to improve the availability, accessibility, and quality of data and how it can be used to better monitoring and policy evaluation (see WP6).

Each of the policy guidelines will be developed and used for at least three focus countries, considering the specific context and needs (see detailed impact table above).

Expected impact 5: “Improved quality of reporting” and “use of more accurate calculation and Measurement & Verification methodologies, including for cross-sector use of energy”

T6.3 is dedicated to the improvement of monitoring, reporting, and policy evaluation methodologies for each of the covered EPBD policies. In addition, NBRP (WP2), in particular deals with the quality of reporting, the consistency between other policy reports (e.g., NECP, comprehensive assessments of heating and cooling and thus also the potential link with other energy sectors), and also how to improve calculation methodologies to derive the datasets included in the NBRPs. While T6.3 will be implemented in each focus country (and beyond), the NBRP method will be developed specifically for the context and needs of at least three focus countries. This is connected also to the corresponding stakeholder engagement activities in these focus countries (see above).

Expected impact 6: “Improved understanding of potentials and market barriers”

For each policy instrument, we will first start with a profound analysis of the policy needs, the context, and learnings from previous policy implications, in particular good practice examples. This will lead to an improved understanding of potentials and market barriers.

We will discuss these results in policy forums and at least 24 bilateral meetings with policymakers from at least six countries.

Expected impact 7: “More effective planning, for example, Heating and Cooling networks”

The proposed policy solutions will also be designed to facilitate more effective planning and cooperation among policies, also beyond the EPBD, as described in T.6.2 and impact 5 (e.g., NBRP and heating and cooling networks). Moreover, policies like MEPS and ZEB increase trust in market development and allow more reliable planning data, e.g., regarding heat demand development and resulting heat densities as a basis for district heating grid planning. Last but not least, improved EPC databases and access to relevant data could strongly facilitate effective H&C planning. This will be considered in the development of the related policy instruments in focus countries and beyond.

We will develop at least six policy solutions (e.g., NBRP, EPC improvements) explicitly supporting effective planning, e.g., H&C networks.

Expected impact 8: “Improved understanding and measurement of the impacts and non-energy benefits of new policies, also including circular economy”

The work on NBRPs will also include a discussion of the broader impacts of energy efficiency in the built environment (WP2). The cross-cutting WP6 includes a task on how emerging concepts, such as the circular economy, could be embedded in the developed policy solutions.

Monitoring impacts and related policy evaluation will be a strong cross-cutting activity throughout the whole project (see T.6.3) and in all policy solutions.

All these aspects will be an integral part of the stakeholder engagement process in focus countries and beyond.

Expected impact 9: “Primary energy savings/Renewable energy generation”

EPBD.wise aims to reduce the energy-related footprint of the European building stock by incorporating a broad bundle of instruments, which will be addressed by the revised EPBD, in an extensive stakeholder interaction process. While new constructions are going to be covered mainly through the instruments of the EPC and the ZEB, the main focus will be put on the transformation of the existing building stock with the support of the more recently introduced instruments such as the NBRP, MEPS, and BRP. By qualitatively, as well as quantitatively analysing the possible impacts of effective, and from the stakeholder point of view, also realistically implementable full set of instruments, we will work out, together with stakeholders, the benefits that such policy-driven transformation can achieve. At the same time, we are going to address the challenges and barriers that come with the different instruments on a country level, socio-economic and techno-economic wise, as well as legal and regulatory wise. This will allow stakeholders and policymakers to take better-informed decisions and reduce uncertainty-related risk. Thus, the project will lead to a tightened and faster implementation of stringent building energy-related requirements, which are needed to achieve global climate change mitigation pathways, as well as EU targets such as the Fitfor55 and the REPowerEU package.

This project aims that all focus countries will take up substantial parts of the suggested policy packages and implement recommendations developed within this project into national law. Furthermore, through targeted replication activities, we aim for spill-over effects in the remaining EU-27 countries and expect that key recommendations are considered and taken up by other non-focus EU-27 countries.

Quantitative data are provided in the table above, and calculations are in the next section.

Expected impact 10: “Investments in sustainable energy triggered by the project”

The energy savings we are aiming for with this project will be achieved by additional and more comprehensive energy renovation activities. These activities will trigger additional investment in energy efficiency measures. Quantitative data are provided in the next section.

In addition to the quantifiable impacts described above, the Ukrainian project partner is in the position to channel the project results into the procedures for reconstructing the country after the end of the war and ensure the link to the Energy Community of which Ukraine is a Member. A spill over effect on the countries of the Energy Community will lead to additional impacts.

2.2 Credibility of the impacts

Credibility of the impacts

Expected impact 9: “Primary energy savings/Renewable energy generation”

The European building stock amounts to a total heated floor area of about 25 million km²¹⁵ (EU-27, 2020), of which 2 million km² are located in the selected EU-27 focus countries, with another estimated 2 million km² in Ukraine¹⁶. In the past decade, only 1% p.a. of European buildings performed a medium or deep energy-efficient renovation¹⁷, while the annual refurbishment rate of shallow measures is in the range of about 3%¹⁸. Given the past refurbishment rate, this corresponds to an annually refurbished floor area (with at least a medium ambition level) of 200 km² in the EU-27 countries (20 km² in the EU MS focus countries). In addition, 600 km² (60 km² in EU MS focus countries (i.e., excluding UA)) are performing a light refurbishment; corrected for double counting of measures, selection bias of the survey, as well as non-heating and cooling related energy efficiency measures. We believe (based on the average lifetime of building components) that the representative floor area is in the 200-250 km² (20-25 km²) of heated areas which perform shallow heating and cooling-related energy efficiency measures.

Given the annual primary energy savings of about 19 kWh/(m²*yr) for light refurbishment activities, 64 kWh/(m²*yr) for medium, and 122 kWh/(m²*yr) for deep refurbishment levels (based on IPSOS, 2019¹⁹), the corresponding additional primary energy savings would amount to 9.5 TWh/year if 225 km² (light refurbishment activities of one year) performed a medium instead of a light refurbishment and additional 13 TWh/year if these buildings switched to a deep refurbishment level. If 200 km² switched to deep instead of medium refurbishment level, the additional primary energy savings would amount to 11.6 TWh/year.

The recent EPBD proposal declared the aim of doubling the refurbishment rates until 2030, which is in line with the MIX scenario, presented in the Impact Assessment²⁰. Since areas that perform light refurbishment are in the same order of magnitude as those that performed a medium or deep renovation, doubling the annual rates would require that all these buildings apply a medium or deep refurbishment instead of a light refurbishment. With the tailored support of policymakers in charge of EPBD implementation, we aim for the reduction of the share of light energy-related measures by 10% in focus countries (2.5% in non-focus countries) directly triggered by EBPD.wise and shift these heated floor areas towards deep ambition levels once the countries have fully implemented the measures. In addition, we aim to shift 20% (5% in non-focus countries) of buildings that would perform a refurbishment with a medium ambition level towards a deep refurbishment level. For the full implementation, we consider a period of four years after the project has finished (around 2030), while we believe that the recommendations will start to show the first effects in the national laws around one year after we start comprehensively disseminating and results and discussing the impacts. For focus countries, we believe this will be a half year before the end of the project, while we expect that the project impact will be delayed by one year

¹⁵ Hotmaps Building stock analysis (<https://gitlab.com/hotmaps/building-stock>), extrapolated to 2020 (6 years) using an annual construction rate of 1%. 1 km² equal 1 million m².

¹⁶ Estimated by scaling the data for Romania and Bulgaria to the Ukrainian population

¹⁷ EC. Renovation wave. 2021 https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-buildings/renovationwave_en

¹⁸ IPSOS. 2019: Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU

¹⁹ At this stage, we distinguish between light, medium, and deep refurbishment, where the last option relates to energy savings of around 60%, see 2019 Commission Recommendation on Building Renovation (EU) 2019/786. Within the project, we will focus on the new deep renovation standard that will set the attainment of the new zero-emissions building definition.

²⁰ EC, 2021. COMMISSION STAFF WORKING DOCUMENT IMPACT ASSESSMENT REPORT Accompanying the Proposal for a Directive of the European Parliament and of the Council on the energy performance of buildings (recast), https://eur-lex.europa.eu/resource.html?uri=cellar:daf643a4-5da2-11ec-9c6c-01aa75ed71a1.0001.02/DOC_1&format=PDF

in non-focus countries. Between then and the full implementation of effects we consider a linearly increasing impact.

Table 4: Annual refurbished heated area by renovation depth as basis for estimating impacts

	Annual refurbished heated area [km ²]	Ambition Impact: Share shifted towards deep refurbishment within 4 ½ years	Early / mid of					
			2026 (end of project)	2027	2028	2029	2030	2031
Light improvement (before EPBD.wise)			Deep refurbishments triggered by EPBD.wise [km ² = million m ²]					
EU-27 non focus	225	2.5%	0.0	0.3	1.3	2.5	3.8	5.0
EU MS focus	22.5	10%	0.1	0.5	1.0	1.5	2.0	2.3
Ukraine	67.5*	10%	0.4	1.5	3.0	4.5	6.0	6.8
Medium improvement (before EPBD.wise)								
EU MS non focus	200	5%	0.0	0.6	2.2	4.4	6.7	8.9
EU MS focus	20	20%	0.2	0.9	1.8	2.7	3.6	4.0
Ukraine	60*	20%	0.7	2.7	5.3	8.0	10.7	12.0

* We assume 3-times the annual refurbishment rate of EU-27 countries due to the reconstruction needs.

Given our ambition, the primary energy savings would amount to around 25 GWh at the end of the project and around 8 TWh/yr five years after the end of the project. In this estimation, we do not account for the accelerated implementation of more stringent policies, which we believe will be achieved by promoting more efficient and socially-balanced policy bundles. Given that the overall energy saving potential through comprehensive renovations triggered by stricter MEPS (compared to MEPS proposal by the EC), in the order of 400-450 TWh/yr (additional 12%)^{21,22}, the project aims to exploit 2% of total estimated primary energy saving potential. In the case of Ukraine, we estimate that the reconstruction and refurbishment needs due to the Russian attack, expressed in renovation and construction rates, will exceed that of the EU-27. By considering rates that are 3-times that of the EU-27 MS, along with the same impact as for the other focus countries, we derive a 3-fold impact as we get for the other focus countries²³.

Regarding additional renewable energy generation, we presuppose that buildings that perform a deep renovation will also require a share of renewable energy carriers to fulfil EBPD and national requirements but assume that this is not the case for light refurbishment. We assume that half of the buildings performing deep instead of light refurbishment will be equipped with a renewable heating system, either a decentral heating solution, such as heat pumps or biomass boilers, or a high-efficient district heating system and/or solar energy generation. Given the primary energy demand of deep refurbished buildings, according to IPSOS (2019) is in the order of 55 kWh for EU-27²⁴, supplying 1/3 of 10% * 22.5 km²/yr in EU MS focus countries and 1/3 of 2.5% of 225 km² (in EU MS non-focus countries) with renewable energy carriers would result in 217 GWh/yr of additional renewable energy generation in EU-27 countries. If we apply the same reasoning to UA, this leads to an additional 185 GWh/yr once measures are taken up.

Table 5: Expected impacts - renewable energy generation and primary energy savings until projects end and 5 years later

Impact type	Until project's end	5 years after the project's conclusion
Primary energy savings		
EU MS focus countries	25 GWh/yr	1500 GWh/yr ¹⁾
EU MS non-focus countries	0 GWh/yr	2600 GWh/yr ¹⁾
Ukraine	75 GWh/yr	5495 GWh/yr
Total sum	100 GWh/yr	8595 GWh/yr
Renewable energy generation		
EU MS focus countries	7 GWh/yr	405 GWh/yr

²¹ BPIE, 2022, https://www.bpief.eu/wp-content/uploads/2022/09/Factsheet_Climact-BPIE_FINAL.pdf

²² Kranzl et al. 2020. ENER/C1/2018-494 – Renewable Space Heating under the Revised Renewable Energy Directive. <https://op.europa.eu/en/publication-detail/-/publication/16710ac3-eac0-11ec-a534-01aa75ed71a1/language-en>

²³ Considering that the heated floor area of Ukraine is in the same order of magnitude as that of the other countries and that the energy performance of buildings and the energy saving potentials are comparable with those of Bulgaria or Rumania (<http://building-typology.com.ua/en/>). A more detailed analysis of the building stock data in UA will be part of the project.

²⁴ The EU-27 focus countries are in a similar order if weighted by area.

EU MS non-focus countries	0 GWh/yr	705 GWh/yr
Ukraine	21 GWh/yr	1215 GWh/yr
Total sum	28 GWh/yr	2325 GWh/yr
1) A full implementation of recommendations and findings of the EPBD.wise project is expected to trigger an impact of about 300 TWh/yr, as estimated by BPIE (2022). The effect directly triggered by the EPBD.wise amounts to 1.4% of the total primary energy savings potential.		

Expected impact 10: “Investments in sustainable energy triggered by the project”

The estimation of the triggered investments builds on the average refurbishment costs for different ambition levels. Here again, we refer to IPSOS (2019), where average refurbishment costs are presented. In their work, they conclude that refurbishment activities with a medium ambition level trigger investments of 200 €/m²²⁵, while those with a high ambition level trigger 285 €/m² in residential buildings. For non-residential buildings, the corresponding data are 272 €/m² and 338 €/m² (yet they include a larger share of non-heating and cooling cost-related components). Light refurbishment activities trigger for both building sectors costs of about 137 €/m², of which a large share is due to investments that are not heating and cooling related. As investment costs differ, we apply 85 €/m² by applying a deep instead of medium ambition refurbishment, and 285 – (137 / 2) = 216.5 €/m² for a deep instead of a light refurbishment.

Table 6: Investments triggered by EPBD.wise

Investments directly triggered by EPBD.wise	the project's end (in € ₂₀₂₂)	5 years after the project's conclusion (cumulated investments until 2031, in € ₂₀₂₂)
EU MS focus countries	32 million €	1900 million € ²⁾
EU MS non-focus countries	-	4710 million € ²⁾
Ukraine ¹⁾	62 million €	3660 million €
Total sum	94 million €	10270 million €
<p>¹⁾ We apply the same price level of 45% as compared to EU-27 (65% as compared to EU-27 focus countries).</p> <p>²⁾ In comparison, the difference between the REF-Scenario and the MIX-Scenario (which we aim for with this project) presented by the Impact Assessment, triggers additional annual investments of about 100 billion €₂₀₁₅ (500 billion €₂₀₁₅ for a 5-year period). Achieving the impact target of our project would lead mean, that this project would exploit around 1% of the estimated additional investments.</p>		

In focus countries, investment cost was lower by about 40% as compared to the EU-27 average. In 2022-prices, the effect is smaller due to a steeper increase in the construction cost indicator. We, therefore, estimate that specific investment needs are lower by 30% compared to the EU-27 average, and in the case of Ukraine, we apply a cost factor of 45%. Given the enhanced refurbishment improvements, with the EPBD.wise project, we are aiming for shifting 10% of low-efficiency improvement activities toward deep refurbishment (2.5% in non-focus countries) and 20% of the medium towards deep refurbishment activities (5% in non-focus countries). We trigger annual refurbishment activities with a high ambition level of 7.3 km²/yr (instead of light) and 13 km²/yr (instead of a medium ambition level). For the focus countries alone, the corresponding numbers are 2.25 and 4 km². Given the additional investment costs presented above, this will lead to additionally triggered investments of 2070 million €/yr in non-focus EU MS, 580 million €/yr in EU MS focus countries, and 1120 million €/yr in Ukraine once the recommendations are taken up in the countries (four years after the end of the project). Given the total additional investment needs, if all refurbishments activities (considering a refurbishment rate of 2.2% p.a.) would be applied at a deep ambition level of around 70 billion €/yr, the project aims to exploit 3,7% of that potential five years after the end of the project.

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2.3 Sustainability of project results

Sustainability of project results

²⁵ Transferred costs data presented in the study to €₂₀₂₂ (2016 – 2022) based on the construction costs index given by Eurostat (output prices in construction). For EU-27 we apply a cost increase of 30% as compared to 2016, for the focus countries the cost increases amount to about 55% (+50% in CZ, +90% in BG and HU, +25% in CY and +6% in EL).



The project results will be disseminated and made available beyond the duration of the project:

- CA EPBD: The project results will be hosted on the CA EPBD website. CA EPBD is the most important information exchange and learning platform for EU MS. The platform is used by MS to exchange information and experience in implementing the EPBD. Its website contains a wealth of information and is a well-known source for those interested in the implementation of building policies. Project results will also be channeled and discussed during meetings of the CA EPBD, either as a contribution of project participants who are also attending the CA EPBD or as topics placed in the agenda of meetings organized by CA EPBD during/after the project.
- The Renovate Europe Campaign & EuroACE ASBL will take on dissemination and replication activities after the end of the project. These will be carried out through the annual Plenary Meeting of the Campaign and through planned national implementation workshops that EuroACE will organize in the aftermath of the adoption of the final text of the EPBD. In this way, the outputs will have a life over several years after the end of the project.
- Scientific publications: Research findings and results based on EPBD.wise will be published in peer-reviewed papers and conference proceedings also beyond the project duration. Research findings will be published in open-access journals offering free access. Moreover, the EPBD.wise website will have a dedicated section for **publications**, which anyone can freely access. In that way, key findings, policy recommendations, and deliverables will be freely accessible, can be used for future research, and implemented in different case scenarios by other researchers, consultants, agencies, and public authorities.
- Partners websites (BPIE, SERA): Dissemination and availability of the research outputs will be available **permanently on BPIE's website**. The project webpage/dedicated area will be directly embedded into the BPIE website (which receives on average over 60k unique visitors per year). The project page will be kept up for at least three years post-project, and all of the key research deliverables and news items will **available indefinitely on BPIE's Knowledge Hub**. The resources to maintain this post project will be mainly annual website hosting fees and maintenance fees to upgrade the website to fit changing needs of the overall design/structure. All other project partners will also be encouraged to develop a webpage and publish the deliverables on their websites where relevant. SERA and e-think will also make the final guideline documents available for download on the own website.
- Selected relevant datasets (in particular related to WP2 and WP3) will be published either as scientific data papers or via platforms such as Zenodo, GitHub, or OpenAir.

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2.4 Exploitation of project results

Exploitation of project results

- a. In WP2-6, we will work with focus countries to develop policy guidelines. This will be used as a **blueprint** to efficiently replicate the implementation, monitoring, and evaluation of policy processes in the other EU MS. Thus, the partners in the consortium plan to use and exploit these blueprints for supporting public authorities in MS, the ECor other stakeholders like industry associations. For example, SERA will use the knowledge acquired during the project in future research and consultancy work, not only in the EU but also in the countries of the Energy Community and in the African regions of ECOWAS and SADC where SERA is active in energy and buildings related advisory projects.
- b. As a **policy-focused think tank**, an important part of BPIE's organizational strategy has always been to track EPBD implementation in the MS. BPIE receives annual funding from a select number of foundations to carry out detailed policy analysis and raise awareness of this among policymakers at both MS Member State and EU levels. The policy guidelines, for example, could directly feed future work tracking EPBD implementation in the MS, and contacts made during the stakeholder engagement process, particularly those in the focus countries, could be brought on as experts to support accessing the right information and dissemination of research results.
- c. BPIE foresees developing more detailed, ongoing work in the focus countries to provide continued EPBD implementation guidance and support. Towards this end, BPIE has launched a separate project in parallel, which in the first stage, will explore how to empower UA the best, to rebuild its buildings and **cities sustainably and ensure alignment of UA's building policies with those of the EU**, and is foreseen to develop into continued support work, with a strong focus on working with local experts. EPBD.wise outputs will directly feed this work; in particular, the policy guidelines will be further disseminated and help BPIE build a holistic roadmap to sustainably rebuild UA. Relationships developed with Ukrainian stakeholders in EPBD.wise will be utilized, where appropriate, in this ongoing work.

- d. Promoting exchange and networking among stakeholders will be a relevant part of our project. That will foster a **network** of experts that will be included in a database of contacts and will promote collaborations for future projects and activities. Several partners in the consortium plan to actively use this network for further consultation and policy advice.
- e. Focus country contact points (EMI, HMRSC, and Renovate Europe national partners, sub-contracted through EuroACE) will take the activities in focus countries within EPBD.wise as a starting point for intensifying the network activities beyond the project duration. Focus country contact points will use the project results and activities as a starting point to intensify their engagement with national, regional and local policymakers after the project has finished. As an example, previous engagement between FCCC, specifically the REC national partners, includes participating in bilateral or stakeholder meetings with national public officials, preparing reports for national Ministries, organising events with the participation of public officials to facilitate debate or raise awareness about policy tools, schemes etc.
- f. The EPBD.wise project will create **transferable knowledge and tools** that policymakers can use to tailor, implement and monitor EPBD policies concerning regional and national needs. We plan to use components, methods, and approaches for these tools and knowledge also in other policy domains beyond the building sector only for policy implementation within other parts of energy-related EU policy provisions like in the EED.
- g. **Data validation** will be a central part of WP2 and WP3 to ensure the relevance of the modeling results. This will produce an updated, validated dataset, e.g., building stock data. This updated dataset will be used in upcoming projects consulting MS, the EC, and other stakeholders like industry associations.
- h. Research findings will be **published in scientific publications**. EPBD.wise will result in peer-reviewed publications also beyond the project duration.

2.5 Catalytic potential: Replication and upscaling

Catalytic potential: Replication and upscaling

To multiply EPBD.wise's impact, we foresee several actions during project implementation and afterward: One of the main outcomes will be the **replication of the policy guideline** documents defined for the focus countries to other EU MS. For this purpose, we have foreseen dedicated tasks in WPs 2-5 (last task in each of the WPs). This will result in a comprehensive portfolio of consistent scenario frameworks in terms of countries with similar economic and energy policy backgrounds, required measures, and policy instruments to achieve certain target interlinkages and synergies between policy instruments and energy demand by energy carriers.

Overall, the EPBD.wise project will promote an approach/procedure to have a useful and engaging use of the EPBD recast policies at the regional and national levels in terms of implementation at the local and national level, overcome major barriers, specifically institutional and socio-economic, and monitor policy instruments. Such methodology can be used as a **blueprint in other energy policy domains**. In particular, for the upcoming calls under the same topic, where the support of MS in implementing the EED and the RED will be addressed, we expect that the approaches developed in EPBD.wise can be replicated.

Furthermore, the EPBD.wise project aims to facilitate the **availability and access to data** relevant to EPBD implementation. Based on related other ongoing projects (e.g., BuiltHub, Moderate, the update of the Building Stock Observatory), we will provide a fruitful methodology for coming users so they can use the data in their activities and analysis. It is important to stress that our target group is not only stakeholders and policymakers involved in the project but also any users that want to use building-related data in its projects. Free access to data, as well as open-access publications of the project results, is the basis for providing replicable technical knowledge and making it exploitable in society.

The Ukrainian project partner plans to channel the project results into the procedures for reconstructing the country after the end of the war and ensure the link to the Energy Community (<https://www.energy-community.org/>). A spill over effect on the countries of the Energy Community (Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Georgia, Moldova, Montenegro, Serbia, and Ukraine) will lead to additional impacts beyond the EU-27.

The European energy and building-related legal frameworks serve as an example for policy development in the countries of the Energy Community and countries of the Global South. Such activities are supported by the development agencies of EU MS, such as the German GIZ. These projects are financed by national and EU budgets. It is clear that the situation in these countries is much more challenging in many respects, but lessons

learned from EU projects can provide useful input for developing adjusted and adequate solutions, as demonstrated by the development of the Nigerian Energy Efficiency Building Code.

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3. IMPLEMENTATION

Fill in **only** section 3.1 and 3.3 at stage 1 (concept note). Fill in **all sections** at stage 2 (full proposal).

3.1 Work plan

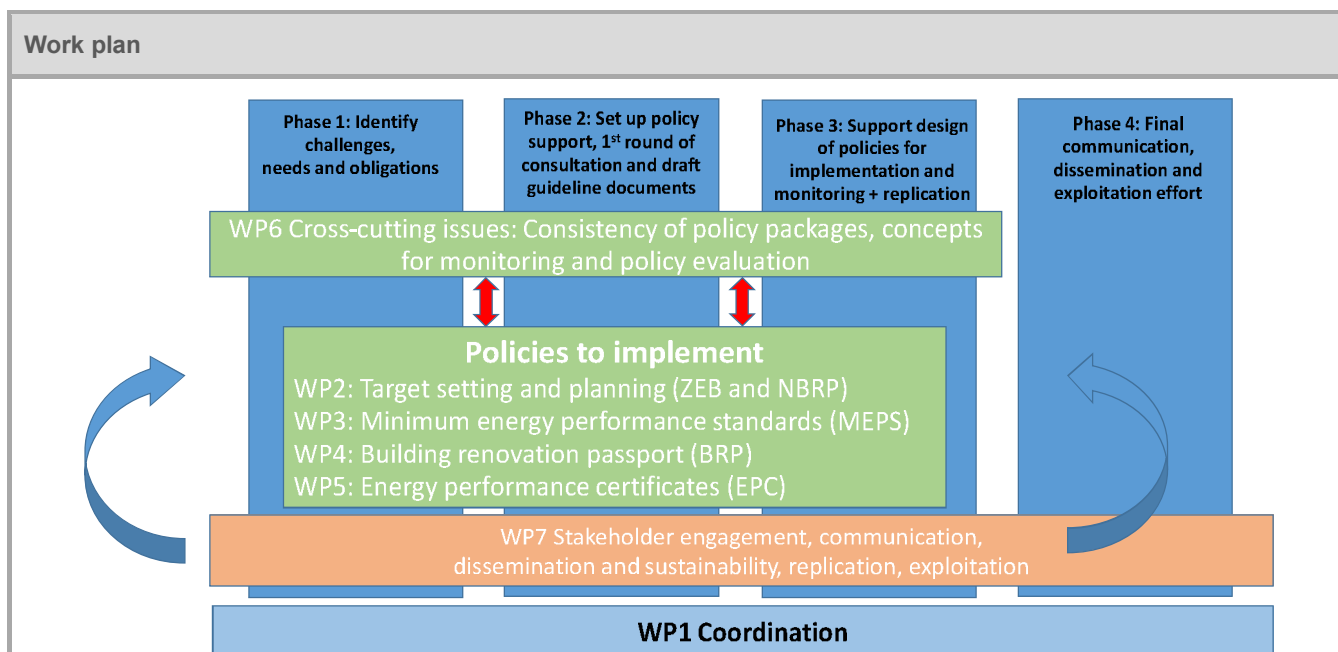


Figure 1: Work package overview

The work is organized into the following three groups of WPs:

1. WP1 ensures effective management of the project as well as internal reviewing process and impact monitoring (light blue in figure 1 above)
2. WP2-6 provide the technical content and related solutions for policy needs (green in the figure above): each of the WP2-5 covers one of the policy instruments, while WP6, as an umbrella activity, ensures consistency of the proposed solutions among each other and with the overall policy targets and framework
3. WP7 guarantees an intensive and well-coordinated stakeholder engagement process (in close interaction with WP2-6), organizes communication and dissemination, and ensures sustainability, replication, and exploitation of project results

The project follows **four phases** (also see 1.4): (1) Phase 1 (M1-M8) identifies policy needs, status quo, and good practice examples, (2) Phase 2 (M9-M20) organizes the policy support in focus countries, initiates the intensive consultation process, and delivers draft policy guideline documents for focus countries. (3) Phase 3 (M19-M30) delivers final policy guideline documents for focus countries and elaborates replication of results to EU-27. (4) In phase 4 (M31-M33), we will perform a final communication, dissemination, and exploitation effort.

Corresponding to these phases, the **structure of WP2-5 is almost identical** (the except for WP2, which includes a task on the definition of ZEB, constituting a core element of target setting and planning): Phase one is represented by two corresponding tasks, one on policy needs and one on status quo and good practice examples. Phase two is represented by one task elaborating solutions, concepts, and approaches for the specific policy challenges in focus countries. A final task (Preparing the ground for replication in other EU MS and finalizing policy guideline documents) in each of the WPs 2-5 delivers results for phase 3.

There are some **common elements in the approach and methods in WP2-5: Phase 1** follows a combination of desktop research, bilateral meetings (subtasks 7.3.5 and 7.3.6), and policy forums/roundtables (subtasks 7.3.1 and 7.3.2). The desktop research will take the final version of the recast EPBD (not available when writing the proposal) as starting point and identify relevant existing studies on the analysis of the status quo of the related



policy instruments and good practice examples to make sure we extract information from previous work relevant for EPBD.wise and focus countries. **Results will be a mapping of each focus country's policy needs, status quo and good practice examples across the EU, summarized in the deliverables Dx.1 (from WP2-5).** This will ensure that the policy guideline documents (Dx.2 from WP2-5) will meet **the policy makers' needs at the time of project implementation**, including short-, medium- and long-term requirements and build on previous experiences. A short summary identifying key policy needs across the EU-27 will be delivered after phase 1 (D6.1, M14). The summary will highlight the main issues raised by MS, without diving into details about each MS, and will be used to guide the implementation of phase 2. **Phase 2** will have an analytical component when developing the solutions and concepts and again will be embedded strongly in the stakeholder engagement process by conducting the second round of bilateral meetings (subtask 7.3.5) and policy forums/roundtables (subtasks 7.3.1 and 7.3.2). It will lead to a series of policy guideline documents (Dx.2 from WP2-5) for a selection of focus countries in each WP (according to table 2 in chapter 1.4). The development of policy guideline documents will build on the comparison of methods described in T.x.2 (from WP2-5) and consider the link to ZEB definition according to T.2.1.

In **phase 3** (and corresponding final tasks of WP2-5), we will prepare the ground for replication. Some of the results elaborated for the focus countries might be replicable in other countries, while others might need adaptation. We will first cluster EU MS regarding their similarity in terms of implementation of the specific policy instruments (e.g., according to previous experiences with similar approaches, data availability, the status of the building stock, etc). This step will have a slight overlap with phase 2 (i.e. will start in Month 19). Second, for each of these clusters of the EU MS, we will discuss the possible replicability of solutions identified from the status quo and good practice examples developed in the corresponding WP and considering the policy needs identified at the beginning of the WP and considering the link to the ZEB definition (T.2.1). Again, this phase is linked to a series of specific events coordinated by WP7: roundtables and replication webinars targeting groups of non-focus MS (subtasks 7.3.2 and 7.3.8), presence at a series of platforms (subtasks 7.3.3, 7.3.4, and 7.3.7), bilateral meetings with EU policymakers (subtask 7.3.6) from which we will receive important information for streamlining and preparing the replication process.

By this approach, EPBD.wise will deliver a model for supporting MS in implementing the EPBD by using existing knowledge (good practices), the partners' expertise, close interaction with policymakers and other stakeholders, and building synergies with MS via organizations like CA EPBD and Renovate Europe.

WP4 – Building Renovation Passport (BRP)					MS3							
Task 4.1 – Policy needs												
Task 4.2 – Analysis of good practice examples and status quo												
Task 4.3 – Solutions for eff. design, impl., mon. and policy evaluation												
Task 4.4 – Preparing the ground for repl. in EU-MS and finalizing PGD												
WP5 – Energy Performance Certificates (EPCs)					MS4							
Task 5.1 – Policy needs												
Task 5.2 – Analysis of good practice examples and status quo												
Task 5.3 – Solutions for eff. design, impl., mon. and policy evaluation												
Task 5.4 – Preparing the ground for repl. In EU-MS and finalizing PGD												
WP6 – Effective Implementation of Policy Packages				MS5		MS7		MS6				
Task 6.1 – Secure consistency across EPBD policies												
Task 6.2 – Secure consistency of the EPBD with Fitfor55 provisions												
Task 6.3 – Concepts for monitoring, reporting, and policy evaluation												
Task 6.4 – Emerging concepts, trends in the construction industry												
WP7 – Stakeholder Eng., Comm., and Dissemination and Exploitation		MS8, MS9			MS10							
Task 7.1 – Stakeholder eng., communication, and dissemination plan												
Task 7.2 – Stakeholder/end-user engagement, and man. process												
Task 7.3 – Stakeholder engagement and dissemination events												
Task 7.4 – Media coverage and scientific publications												
Task 7.5 – Printed and digital promotion, dissemination materials, and communication and dissemination activities												
Task 7.6 – Exploitation plan												

3.3 Stakeholder engagement

Stakeholders engagement

We will engage following four stakeholder categories: (1) national (and potentially regional) policymakers responsible for EPBD implementation in focus countries (2) policy experts across the EU, including industry associations, agencies, NGOs, and research; (3) EU and national policymakers who could replicate project results and use them for more effective policy design, and (4) 'influencers' who could push our messages to our primary target audience.

Table 7: Summary of stakeholder activities and relevance to target groups

Main tools Target groups	Primary target group		Secondary target group		Tertiary target group: Policy experts + 'influencers'			Tertiary target group: Multipliers	
	Policy makers in focus countries	Local authorities in focus countries	EU level policymakers	National policymakers (EU 27)	Research & think tanks	Building professionals	Other LIFE projects and relevant initiatives	NGOs/Civil Society	Media
EPBD.wise policy forums	X	X						X	X
Online stakeholder roundtables	X	X	X	X	X	X			
Bilateral discussions with policymakers in focus countries	X	X							
Bilateral discussions with policymakers at EU level			X						
EPBD.wise presence at C4E Forum and Renovate Europe plenary	X	X	X	X	X	X	X	X	X
Interaction with Concerted Action on the EPBD and the European Energy Network	X	X	X	X					
4 replication webinars			X	X	X	X	X	X	X
Clustering activities: conference participation	X	X	X	X	X	X	X	X	X
Final conference at EU level	X		X	X	X	X	X	X	X

EPBD.wise will use a targeted, standardized approach to mobilizing stakeholders throughout the project. This will run in parallel to broader 'always on' communication and marketing activities (see section 3.5), enabling continuous bi-directional engagement with stakeholders:

- a. **Stakeholder mapping and first outreach:** mapping of consortium's existing networks, as well as potential stakeholders outside of its networks, the definition of key messages for different stakeholder types, and preferred channels for target groups. The first outreach campaign will include targeted invitations with messages on the 'why' and 'what's in it for me' to reach partners' interests and secure their buy-in. All consortium partners will reach out 1-1 and through public communication means (email, social media) to secure a first stakeholder list by M3. Outreach to 'new' stakeholders will continue thereafter on an as needs basis.
- b. **Specific stakeholder activities will be organized around focus country contacts points (FCCPs).** FCCPs will play a foundational role in identifying the right national stakeholders, providing logistic support and outreach to national/local media for the organization of EPBD.wise Policy Forums and disseminating results.

EuroACE will engage national partners of its Renovate Europe Campaign to undertake the outreach and organization work within the focus countries. Based on previous cooperation with these partners and market research, EuroACE considers that they have the experience and contacts for them to be subcontracted to EuroACE ASBL, which provides a letter from proposed national partners that confirms their firm commitment and their capacity to undertake the allocated tasks. We have commitments from the following Renovate Europe

partners (+ consortium partners EMI and HMRSC): Renovate Bulgaria (BG), Chance for Buildings (CZ), INZEB (EL, can also cover CY), Fala Renowacji (PL), ROENEFF(RO), Buildings for the Future (SK) and SGG-CCS – Construction Cluster of Slovenia (SL).

Co-design of outputs and outreach: outputs from WP2-5 will be developed in a co-design process with stakeholders, coordinated within WP7. Core to this process is the organization of 8-12 online expert roundtables on specific topics, open to SH beyond focus countries, (subtask 7.3.1). The groups will be 'invite-only', based on stakeholder mapping, and will each be designed to gather inputs to directly feed into WP2-5: i.e., the identification of policy needs and best practices examples, the discussion topics, and the policy guidelines for each WP. These inputs will be validated and disseminated through **twelve EPBD.wise Policy Forums** in focus countries (subtask 7.3.2)

Letters of support are available from policymakers in focus countries and beyond (see annex).

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3.4 Impact monitoring and reporting

Impact monitoring, evaluation and reporting strategy

The status in terms of impact indicators, the achievement of objectives of the WPs, handing in of the deliverables, and monitoring of milestones will be observed during six-monthly meetings.

As mentioned in T.1.5, the consortium will undergo internal audits (every six months – during project meetings). **Subject to evaluation will be the project's impacts (please see Chapter 2). We will monitor the identified impact indicators, keeping track of achievements step-by-step.**

Moreover, the monthly meetings of both the communication board and technical board will serve for more regular monitoring of impacts and overall project progress (see.4.2).

We will set up a tracking file for monitoring the impacts described in part 2.1. This will include:

- Monitoring and documenting all bilateral, 1-1 exchanges between consortium members and policymakers, documenting the date, type of meeting, and main discussion points and/or outcomes. This will be done both within focus countries and beyond.
- Monitor and document all workshops and events, in particular, the policy forum discussions in focus countries, but also online discussion formats
- Monitor references of EPBD.wise in policy documents or collect testimonials from policymakers
- Monitor the number of stakeholders to whom knowledge produced by the project will be transferred. Task leads will report on their activities. These will also make use of attendance lists during in-person and online meetings.
- Oversee the number of stakeholders reached through media and events. The attendance lists will be used for in-person and offline events, while we will consult access numbers by stakeholder type concerning social media use.

Table 8: Impact monitoring of communication and dissemination activities

Activity	Objective	Expected audience	Monitoring tool
EPBD.wise webpage	Increase knowledge on project topic/make information easy to understand and access	20k page views annually 1500 downloads of reports by end of project	Google analytics
Newsletters	Make information easy-to-understand & communicate to different stakeholders in focus countries and across EU	6 newsletters sent minimum 1500 recipients 30% open rate	Mailchimp statistics
Social media channels	Create awareness and familiarity with the project topic objectives and results (using partners' existing social media accounts)	Reach on the project end: Hashtag #EPBDwise used 1000 times	Twitter, Facebook and LinkedIn analytics
Videos	Create awareness and familiarity with the project topic, objective and results	400-450 views each	Youtube statistics
Infographics, reports and policy briefing downloads	Translate the project results into non-scientific language, easy to understand for target audience	400 downloads each	Number of downloads on website; Google analytics

Articles	Create awareness of the project objectives and results, creating impactful storyline about EPBD implementation	15 articles and press releases published during the lifetime of the project; 75 media mentions	Media monitoring performed regularly through Excel templates (Google alerts used to ensure thorough tracking). Copies of the articles shared on webpage/social media
Digital networking and clustering activities with EU projects	Create awareness and familiarity with the topic, objectives and results	Have our project referenced online on about 20 other websites and referenced to at EU-projects' meetings and conferences	Digital monitoring
Clustering activities: conference participation	Create awareness and familiarity with the project, sharing results and encouraging replication	~30 events	Digital monitoring of conference participation. Tracking audience # where possible.

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3.5 Communication, dissemination and visibility

Communication, dissemination and visibility of funding

The project will develop a series of materials and activities that will contribute to EPBD.wise's 'always-on' communications and marketing strategy and ensure all target groups are reached consistently throughout the project and beyond. All materials will include a visible reference to the EU project funding under the LIFE program, including the specific project number. We will avoid printing to avoid paper waste and will track the success of materials digitally as much as possible. Methods and indicators for all tools are described in table 8, part 3.4.

Newsletters will be sent to a GDPR-compliant mailing list, including the core stakeholder group developed in the first months of the project, as well as new stakeholders, every six months. The newsletters will describe in non-technical language, suitable for policymakers, the general public, and the media, the contributions made by EPBD.wise towards the EPBD implementation. The newsletter will be translated into the language of the six focus countries to achieve maximum engagement with stakeholders.

A dedicated project webpage/'project corner' will be developed by M4 and embedded directly into BPIE's website, which today receives an average of 60k unique visitors per year. It will be the main external communication tool, providing access to all the project's information and outcomes and all project documentation. It will include information on the project, partners, goals, information on how to become an 'involved' stakeholder, and a 'policy corner' which will showcase best practice examples and policy needs for the main policy instruments covered in WP2-6, featuring a series of **dynamic infographics** to convey outcomes.

Media coverage: Extensive media work will be undertaken, with a particular focus on the focus countries and EU countries where partners have strong national contacts (such as Germany, Italy, Spain, France, and Austria). Thanks to the consortium's strong media expertise, we are confident to secure at least 75 media mentions. The BPIE website will also feature a series of blog posts/articles featuring interviews with stakeholders from national roundtable events.

Two policy briefings: one focusing on policy needs and best practices, developed and disseminated around M12, and the second summarising the recommendations from WP2-5 around M35. The briefings will be translated into focus country languages and will be shared with national policymakers by national contact points and with EU policymakers by BPIE and EuroACE.

Design and translation of policy recommendations and WP6 policy reports: policy recommendations deliverables will receive a professional graphic design and will be translated into focus country languages. Executive summaries will also be available separately. WP6 deliverables will receive a professional graphic design and will be disseminated by partners directly to policymakers via direct (personal) email.

Infographics: Infographics will be designed to highlight key messages from all key outputs, including WP6 policy reports, and will be shared widely on social media.

Scientific publications: At least two scientific publications will be foreseen to be co-authored by partners and published in high-level peer-reviewed journals.

Events and policy outreach: A series of EPBD.wise policy forums will be rolled out in the six focus countries, designed specifically for national policymakers. We will furthermore ensure regular bilateral discussions with

policymakers at the national (1-2 times per year) and EU levels. All consortium members will participate in a minimum of 30 external events to encourage the replication of results across EU 27. At least one policy conference at European Sustainable Energy Week will be organized, in addition to a final conference targeting EU policymakers, and a replication webinar series to showcase the policy guidelines, ideally partnered with a platform such as Leonardo, to ensure wide dissemination in all MS. To maximize dissemination results, the consortium partners will leverage their channels to ensure wide dissemination across Europe. BPIE, EuroACE, and the Renovate Europe campaign will build a consistent digital presence that all partners will support by posting about the project on their websites and social media where possible.

Existing social network accounts within the consortium will be used regularly to engage with all stakeholders, particularly those of BPIE, EuroACE, and the FCCPs. A list of accounts to tag on social media (particularly Twitter and LinkedIn) will be established in the Stakeholder Engagement, Communication, and Dissemination strategy. A hashtag for the project (#EPBDwise) will be used for monitoring purposes. All partners, to the extent possible, will also include a page dedicated to the project to maximize dissemination. The social media strategy will capitalize on existing dissemination channels within consortium and FCCPs, which have a **combined potential reach of 1.4 million + unique website visitors annually and 14 000 social media followers**:

- BPIE: website (60k + unique visitors annually); monthly newsletter 2000+ GDPR compliant recipients in Europe; Twitter (over 6000 followers), Facebook (over 800 followers), and LinkedIn (over 2000 followers)
- EuroACE: website (12k+ unique visitors annually); Twitter (3,264 followers), LinkedIn (924 connections), joint EA/REC Mailing list (2,089 subscribers), C4E Forum: Twitter (484 followers), LinkedIn (213 followers), Mailing list (800 subscribers)
- ADENE: website: 9200 unique visitors annually; LinkedIn (12645 followers); Facebook (4530 followers)
- ENEA: website (1.3 million unique visitors annually); Twitter (16k followers); LinkedIn (105k followers); Facebook (42k followers)
- EMI: website (104 000 unique visitors annually)
- CZ – Chance for Buildings followers: LinkedIn (543), Facebook (538)
- SK – Buildings for the Future followers: Twitter (56), LinkedIn (353), Facebook (650)
- PL – Fala Renowacji followers: Twitter (104), LinkedIn (474), Facebook (356)
- BG – Renovate Bulgaria (new SoMe account) followers: Facebook (127 followers)
- SI – SGGCCS followers: Twitter (177), LinkedIn (748), Facebook (228)
- EL – INZEB followers: Twitter (455), LinkedIn (1,265), Facebook (1,300)

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4. RESOURCES

4.1 Consortium set-up

Consortium cooperation and division of roles (if applicable)

The consortium consists of two research institutions (TU Wien, e-think), a think-tank (BPIE), two energy agencies (ADENE, ENEA), an industry association (EuroACE), an NGO (HMRSC), a consulting company (SERA) and a non-profit company (EMI).

The following table shows the competencies required for the implementation of the project and how different partners fulfil these competencies, and how they take over related activities:

Table 9: Partners and key roles in the project

Competencies	Partners and key roles in the project
Know-how on EPBD-related policy instruments: (1) ZEB (2) NBRP scenario development (3) MEPS (4) BRP (5) EPC	(1) ENEA was the core-team leader on the topic of ZEB in the CA EPBD and is expected to take this role also in the next round of the CA EPBD; ENEA will coordinate T.2.1 on the status of ZEB and how ZEB will impact the implementation of other EPBD elements (2) and (3) TU Wien, e-think, and BPIE have long experience in scenario development of building-related energy demand, supply, and related policy impact assessments in projects for the EC, Horizon, and national projects. TU Wien coordinates WP2 on NBRP and will be supported by ifeu as a sub-contractor. Ifeu was Core-Team Leader in the CA-EPBD on long-term renovation strategies. BPIE will have a strong role in developing solutions for consistent NBRPs and MEPS in WP2 and WP3. (3) Susanne Geissler (SERA) was the core-team leader on Existing buildings in the CA EPBD phase V and will be the core-team leader on “Renovation passports” at the next phase VI of the CA EPBD, starting end of 2022. SERA coordinates WP3 on BRPs. (4) ADENE was the core-team leader on EPCs within the last CA EPBD project and is planning to take this role again in the next round of the CA EPBD. ADENE coordinates WP4 on EPCs.

<p>Know-how on overall policy context and links between policy instruments</p>	<p>BPIE has longstanding experience in analysing and understanding the building-related policy context, in particular, on the European level, and how different policy instruments need to be linked to each other. Thus, BPIE is predestined as a coordinator of WP6 with corresponding involvement in WP2-5 as well.</p> <p>EuroACE is one of the key players in pushing towards more effective energy efficiency policies in the building sector. Among other activities (see below), EuroACE will strongly contribute to the discussion of policy needs, policy instruments, and how to link them in WP2-6.</p> <p>All other partners, in particular, those involved in the CA EPBD, have a broad experience in the overall policy discussion in the context of EPBD implementation.</p> <p>TU Wien, e-think, and BPIE were recently involved in several service contracts for the European Commission in the context of policies for decarbonizing space heating, the overall heating and cooling sector, or digital building logbooks. This is further proof of the high knowledge of the consortium regarding the general EPBD-related policy context.</p>
<p>Contact with stakeholders, in focus countries, in particular, policymakers responsible for EPBD implementation</p>	<p>EMI and HMRSC have an excellent network in Hungary and Ukraine, respectively, in particular, to policymakers responsible for the EPBD implementation in these countries. Both partners were previously involved in reporting or legislative processes in the context of the EPBD. They will be responsible for the stakeholder engagement processes in HU and UA (WP7). Both partners will contribute to the development of country-specific policy solutions in the corresponding WP2-6.</p> <p>EuroACE is coordinating the Renovate Europe Campaign, which has 49 partners, including 18 national partners. Relevant Renovate Europe partners from focus countries will be subcontracted to serve as focus country contact points and establish the stakeholder engagement process in these countries (see WP7). EuroACE is an association representing industry branches relevant to building renovation processes. EuroACE is leading T.7.3 (stakeholder engagement).</p> <p>Focus country contact points that are not part of the consortium, and are national partners of the Renovate Europe Campaign will be kept informed of the project's developments via the REC monthly newsletters and Contact Calls that are addressed to the EU and national partners of REC. They will have the possibility to contribute to the project's outputs via the REC Contact Calls, the annual REC plenary and the quarterly calls with the full FCCP group.</p>
<p>Contact with policymakers and energy agencies responsible for EPBD implementation across EU-27</p>	<p>The CA-EPBD is <i>the</i> platform for EU-MS policymakers responsible for EPBD implementation. ADENE, SERA, EMI, and ENEA are active members of the CA-EPBD, which ensures the consideration of discussion points from the CA-EPBD and the close interaction with this platform. In addition, it proves the longstanding cooperation of the consortium with policymakers. The partners will contribute correspondingly to WP7.</p> <p>All partners in the consortium have excellent contacts with policymakers and other stakeholders, in their MS and on the EU level.</p> <p>ADENE holds the presidency of the European Energy Network, a network of European energy agencies. ADENE will contribute to complementary dissemination events in this context (see WP7).</p>
<p>Competencies in communication, dissemination, and stakeholder engagement</p>	<p>BPIE has proved its competencies in highly effective and impactful communication and dissemination activities in a long list of European research projects and beyond. BPIE leads WP7.</p> <p>EuroACE is the European Alliance of Companies for Energy Efficiency in Buildings. As such, stakeholder interaction and engagement are part of their everyday tasks. EuroACE is leading T.7.3. In addition, EuroACE is coordinating the work of the Renovate Europe Campaign, which has 49 partners, of which 18 national partners.</p> <p>All partners have high experience with stakeholder interaction processes in European projects.</p>
<p>Building related data and tools relevant for monitoring and reporting</p>	<p>e-think, TU Wien and BPIE are currently involved in European projects to improve the status of building-related data (Builthub, Moderate), partly also in the service contract to enhance the building stock observatory. e-think and TU Wien are operating and applying the building stock model Invert, which was used in more than 40 projects and included in several service contracts for the EC. These partners will apply this know-how in particular in the analytical and data-oriented elements of WP2 (lead: TU Wien), WP3 (lead: e-think), and WP6 (lead: BPIE). In all activities related to monitoring and reporting, where this data will be needed, these partners will have a vital role (see T.6.3, led by BPIE).</p>
<p>Effective coordination and management of European projects</p>	<p>TU Wien has longstanding experience in coordinating European and national projects. Examples of successfully coordinated projects in related fields include ENTRANZE, Hotmaps, ZEBRA2020, and most recently, X-tendo (completed in August 2022, dealing with ten features on how to extend the functionalities of EPCs). TU Wien will coordinate the project and, in this function, lead WP1 and all related activities, including quality management and reporting to CINEA.</p>

	WP1								WP2					WP3				WP4				WP5				WP6				WP7						
	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	7.5		
TU Wien	R	R	R	R	R	R	R	R	C	R	R	R	C	P	C	C	C	P	P	P	P	C	P		P	C	P	P	P	C	P	C	P	C	C	C
e-think	C	C	P	P	P	C	C	P				C	R	R	R	R											C	P	C	P	P	P	C	P	P	
SERA	C	C	P	P	P	C	C	P	P	P	P	P	P	P	P	P	R	R	R	R	P	P	P	P	P	C	P	P	P	P	P	C	C	P		
ADENE	C	C	P	P	P	C	C	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	R	R	R	R	P	P	P	C	C	P
BPIE	C	C	P	P	P	C	C	P	P	P	C	C	P	P	P	P	P	P	C	C	C	P	C	P	P	R	R	R	R	R	R	R	R	R		
ENEA	P	P	P	P	P	C	P	P	R	P	P		C	P	P	P	P	P	P	P	P	P	P	P	C	C	C	C	C	C	P	P	C	C	P	
EuroACE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	C	P	P	P	C	C	C	P	P	
EMI	P	P	P	P	P	P	P	P	C	C	C	C						P	P	C	P	P		C	P	P	P	C			P	C	C	P	P	
NGO HMRSC	P	P	P	P	P	P	P	P	P			C						P	C	C	P	P		C	P	P	C				P	C	C	P	P	

Figure 2: Responsibility of each partner in the MbO approach (R = Responsible partner, C = Contribute to the task, P = Participation through feedback, information, or discussion)

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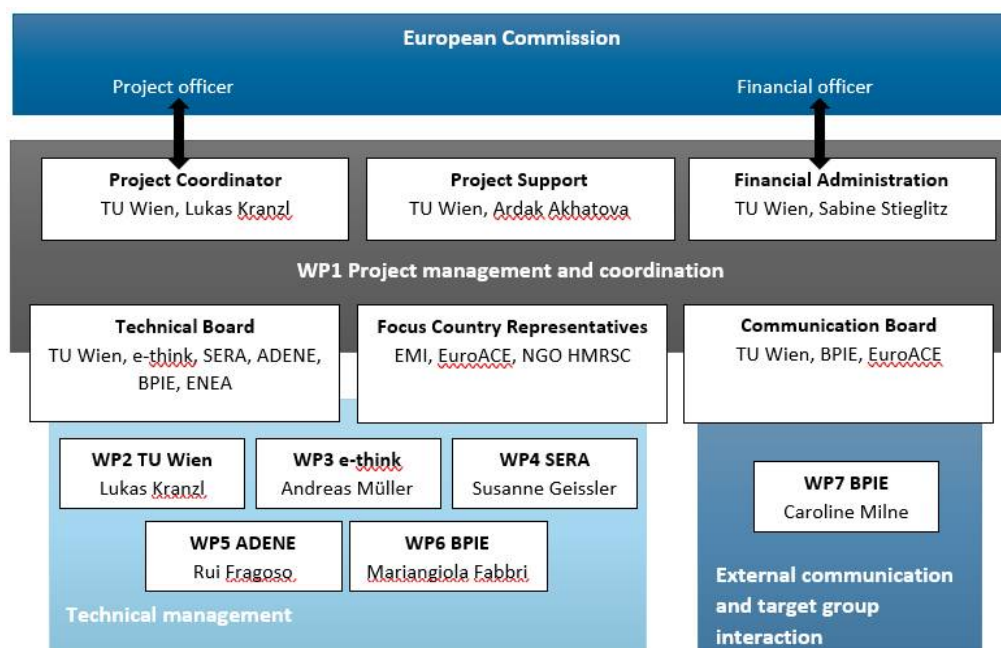
4.2 Project management

Project management, quality assurance and monitoring of progress

The organizational structure for this project, with technical (TU Wien, e-think, SERA, ADENE, BPIE, ENEA) and communication partners (BPIE, EuroACE) and focus country representatives (EMI, HMRSC, EuroACE), can be kept at medium complexity. A project management structure (Figure 3) is deemed sufficient to establish a well-functioning work environment with clearly defined roles and responsibilities and to ensure the completion of work Tasks at high quality.

The organizational structure has been selected for its relative simplicity. The project will be led by the project coordinator, Lukas Kranzl, affiliated with TU Wien, who has significant experience in the coordination of EU projects. The project coordinator will undertake all actions necessary to ensure the realization of all Tasks, deliverables, and milestones defined in the project descriptions. The project coordinator will be the main contact between the project, the European Commission, and the Project Officer. **Financial administration** will be carried out according to European and national legislation. Several co-workers (lawyer, secretary, and accountants) will support the coordinator in all terms of financial administration.

Productive communication is central to the project's success. Hence, a **steady** exchange among all partners to achieve the project's goals is crucial. In-person meetings, allowing for face-to-face communication, are an important part of this communication process, but they will be complemented with standard communication tools such as e-mails, telephone calls and video conferences (Microsoft TEAMS, Zoom, etc.). Transnational cooperation and communication will follow objectives, not hierarchies. A technical and communication board will be established to organize communication effectively and efficiently. Representatives of the technical board are responsible for technical implementation (WP2-5) and consist of TU Wien, e-think, BPIE, ADENE, ENEA, and SERA. Partners forming the communication board are BPIE, EuroACE, and TU Wien, who are also representatives of WP1, 6 and 7, tasked with stakeholder engagement, dissemination, and communication. TU Wien, as project coordinator, will take part on both boards. Both boards will have dedicated email distribution lists and **will meet once a month** via a video conference. Meetings will be separated into two parts to optimize the efficiency of monthly meetings. The first part in a plenum, where transversal and organizational issues are discussed, and a second thematic part, where one theme, announced in advance, is discussed in detail. The **goal of this method is to promote active participation during meetings and to be able to "catch&solve" issues** before they become critical. All board meeting minutes and ToDo-lists will be developed to facilitate the progress management of the project. Also, meetings of the technical and communication board will be organized on demand.



*Figure 3: Organizational structure of the project***General assembly meetings**

General assembly meetings will be held every six months (every 12 months in person) to ensure steady project progress. A special emphasis will be on the Kick-Off meeting (KOM). The goal of this first meeting is to become acquainted, secure high commitment to the objectives, motivate all participants, and learn to work efficiently as a group. To ensure this, an essential part of the kick-off meeting will contain team-building purposes. The **Consortium Agreement (CA) will detail partners' responsibilities, financial provisions, and other contractual provisions** and is the basis for avoiding administrative risks. Also, the CA will clarify procedures in case of discord, which cannot be solved bilaterally.

Innovation management

It is essential to address the entire innovation chain to ensure the development of innovations. The development of the project outputs will require continuous innovation activities both in the process of elaborating results and in the methods applied. The technical board will coordinate the innovation management, which involves catching up on ideas within the consortium and beyond in an open-minded way across the whole innovation chain. To this end, the second part of meetings will focus on only one issue. This part of the meetings will be used as an innovation tool, functioning as opportunities for partners to use the group knowledge efficiently.

Organisation

Since the project objectives are defined entirely in the proposal management by objectives (MbO) will be applied. In this approach, each WP has a leader who is responsible for planning, progress monitoring toward the objectives, and reporting the results and outcomes to the project coordinator. Cooperation between the WP leaders and the project coordinator will be intensive and supported by continuous communication. Furthermore, the experience of all partners will be used to create synergies among the whole project and to generate added value. A consortium agreement (CA) will define the relations between the project partners. The responsibilities within the project are represented in Figure 2 in part 4.1.

Quality control

Quality control requires to develop guidelines and a methodology to ensure the quality of the work accomplished and its alignment with the project scope. The following is foreseen:

- **Quality control of overall project goals:** TU Wien will be responsible for the achievement of primary challenges such as the optimised allocation resources, schedule control and budget; he will ensure correct interpretation of technical requirements, understanding of objectives and ensure high quality of proposed methodology. During each project meeting the consortium will carry out a self-evaluation of the project results, deliverables and impacts. This is based on an evaluation from each partner and the whole consortium to which extent the outputs and deliverables of each work package have been achieved. The results of this evaluation will be included in the minutes of the project meetings.
- **Quality control within each work package:** Each WP leader is responsible for the achievement of the corresponding work package results. The work package leaders make sure that deliverables are achieved in time and in high quality.
- **Quality control of reports:** In order to guarantee high-quality reports, an internal peer-review process will be established for public deliverables. The reviews will be conducted in a rotating manner by experienced staff who do not have the main responsibility for the delivery.

External communication and quality control

In order to keep the project aligned with the policy makers' needs different actions for quality insurance are foreseen. For stakeholders being external to the project the following quality control measures are foreseen in the project:

- **Bilateral exchange** with representatives of public authorities to inform them about the objectives of the project and collect their views and experience as input to the WP policy outputs as well as to present the guidelines and best practices (subtask 7.2.4)
- Regular attendance of the project team at the **CA EPBD** (subtask 7.2.3)
- Discussion with the **scientific community**

Language review and gender in working staff

An internal peer-review process will be established for all public deliverables. Experienced members of the consortium, without direct responsibility in writing reports, will be appointed to review. All deliverables will be developed and reviewed considering their mission that predominates the clarity, brevity, conciseness and communicative aspects of the document.



In order to avoid discrimination due to gender in setting up the project team we selected persons for the project team on the basis of knowledge and experience, not on gender. This approach will be followed in case of withdrawal of project staff during the project duration.

4.3 Green management

Green management

The consortium is fully committed to implementing the project utilizing green management and reducing environmental impact as much as possible. In particular:

- The periodical meetings will be held by electronic communication means as well as the premises of project partners depending on project needs and taking into due consideration social (e.g., safety, work-life balance) and environmental (e.g., modes of travel and CO2 emissions) aspects of project meetings. Meetings will be carried out online whenever in-person confrontations can be avoided. Moreover, if meetings require in-person attendance, project partners will be encouraged to use low-impact transportation systems (e.g., traveling by train).
- Procurement procedures will be performed not solely considering monetary aspects but also environmental and social impacts. Among others, we will acquire fair trade and organic food and avoid single-use plastic items.
- All the events (e.g., Kick-Off meeting, project meetings, the final event, etc.) will be organized to account for environmental and social impacts. In that sense, sustainable catering services will be used, the event site will have proper waste management, and if the venue uses electricity from a renewable energy supplier, that is a big plus.
- Printing will be limited, and when necessary, recycled paper will be used.
- We will limit the number of e-mails with large attachments and will make use of the most efficient information technology (e.g., online repositories).

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5. DESCRIPTION OF PARTICIPANTS

Partner 1

PARTICIPANT 1 (use same partner numbering as on Submission System screens).

Legal name (short name):

Technische Universität Wien (TU Wien)

DESCRIPTION OF PARTICIPANT

Provide a short description of the participant, with an explanation on how it matches its main role and tasks in the proposal.

The Energy Economics Group (EEG) is within the Institute of Energy Systems and Electric Drives at Technische Universität Wien (TU Wien). The core areas of research are:

- **Energy modelling**, mapping and analysis of energy policy strategies,
- Competition in **energy markets** (liberalization vs. regulation),
- **Sustainable energy systems** and climate change,
- Transition to decarbonised **heating and cooling in integrated energy systems**

In the field of heating, cooling and building stock analysis EEG has outstanding experience in terms of **analysing and modelling of transition pathways towards a decarbonised heating and cooling sector** and the coordination of and participation in related projects. This includes projects for the European Commission (e.g. ENER/C1/2018-493 - Renewable Cooling under the Revised Renewable Energy Directive, ENER/C1/2018-494, Renewable Space Heating under the Revised Renewable Energy Directive, ENER/C1/2018-496, Overview of District Heating and Cooling Markets and Regulatory Frameworks under the Revised Renewable Energy Directive, ENER/C1/2019-481, Potentials and levels for the electrification of space heating in buildings, ENER/C1/2019-482, Renewable Heating and Cooling Pathways, Measures and Milestones for the implementation of the recast Renewable Energy Directive and full decarbonisation by 2050, ENER/2020/OP/0019 Pathways for Energy Efficient Heating and Cooling) and related H2020 projects like