



LIFE 15 IPE IT 013

With the contribution  
of the LIFE Programme  
of the European Union



# **DIDACTIC FORMAT**

## **“PRIVATE BUILDINGS GREEN UPGRADING: RESTARTING FROM CONDOMINIUMS” COURSE**

18th JUNE 2018





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## Introduction

This training project is part of the European project "LIFE Prepair-Po Region Engaged to Policies of Air" funded under the European Environment and Climate Action Program (LIFE). The partners of the initiative are the Regions included between the Alpine arch and Po Valley, and their environmental agencies, as well as great metropolitan areas. This format may be modified in function of each regional territorial reality. In particular, it will be possible to realize some parts of the course in a e-learning format, so that part of the course can be used in this way and the product material can be used by several partners.

The aim of the project is to promote coordinated and integrated actions for the improvement of air quality in the territory included in the whole Po basin and Slovenia.

The course has been designed and structured to meet the training needs of many professionals working in the field of the management, design and upgrading of private buildings such as condominiums under the energy and environmental profiles in general. The training course proposes to promote the culture of reducing energy consumption, particularly from non-renewable sources, taking into account different areas of interest (managerial, legal, economic-fiscal, technological).

## Chapter 1 Target group's didactic activity

These main target groups are assumed:

- architects
- surveyors
- engineers
- experts
- craftsmen, craftsmanship and non-craftsmanship companies workers
- condominium managers

In addition, regardless of original project at Action C16, we believe useful to include these additional categories in the training proposal:

- ESCO (Energy Service Companies)
- accountants and business consultants
- Board of Directors members and / or persons in charge of lifelong professional learning of the above mentioned professional categories Associations
- Confindustria representatives
- ANCE representatives
- Banking Companies representatives.

## Chapter 2 Thematic scope of the project

Development of multidisciplinary tools and languages for energy efficiency of condominiums, meant as "building with at least two real estate units, exclusively owned by people who are also co-owners of common parts". (Legislative Decree No. 102, July 4, 2014)

## Chapter 3 Requirements for participants

A minimum of 30 and a maximum of 50 participants is assumed for each edition of the course.

To access the course, if a selection of candidates is decided on the basis of their professional experience, candidates will be required to submit:

**CONDOMINIUM MANAGERS:** cover letter with explicit motivational profiles, CV, compulsory updating required under DM 140/2014 (with priority for managers residing in the Province of Trento);



**ARTISANS:** cover letter as above, CV, membership of technical figures, artisan masters or other type of accreditation;  
**ARCHITECTS:** cover letter as above, CV, enrollment to their professional Association;  
**SURVEYORS:** cover letter as above, CV, enrollment to their professional Association;  
**ENGINEERS:** cover letter as above, CV, enrollment to their professional Association;  
**EXPERTS:** cover letter as above, CV, enrollment to their professional Association.

### 3.1 Selection criteria

For access to the course the selection method will be chosen by the single partner, such as selection based on the registration order or on specific criteria. If the selection of candidates is based on professional experience, a selection based on specific criteria is recommended.

The first parameter will be the set of skills and experience gained by the candidate until the application; the second is the composition of balanced classes from the point of view of professionalism to ensure a proper dialogue between the participants and an adequate level of quality throughout the training path; in case of equal score for the first two criteria, the registration order will count.

Priority will also be given to residents in the Province/Region of the partner and members of professional categories in the Province/Region.

A summary table listing the selection criteria, with the possible score that will be assigned by the training commission, is reported as follows.

SELECTION CRITERIA XXXX/XXXX (YEAR)			
DOCUMENT	CONTENTS	SCORE	TOTAL ASSIGNED
MOTIVATION PROFILES	Interest and motivation expressed by the candidate	max. 10	
	Prospects and proposals for concrete use expressed by the candidate	max. 5	
CURRICULUM PROFILES	Number of projects in which the candidate got involved concerning the contents of the didactic program and its role played by him in concrete	from 1 to 5 = 2	
		from 5 to 10 = 4	
		more than 10 = 6	
	Training (Courses related to the contents of the training programme Prepair)	max. 6	
	Other competences and certificates not relevant to the content of the programme but useful for a more effective attendance to the course, also for the benefit of other students (such as courses on project management, conflict mediation, intercultural mediation, use of ICTs in communication and design etc. etc.)	max. 3	
			0

### 3.2 Line up-test

Once the selection has been made, a cognitive and alignment test is planned for all the students, aiming to detect the competences and knowledge of the participants. This tool is needed in order to understand the characteristics of the whole class attending to the course and to appropriately add and/or adapt topics and modalities that may not be considered in the originally proposed format. The test consists of a number of targeted questions, with multiple response or open response, in which the ability to argue is evaluated.



## Chapter 4 Overall training goal

The overall goal is therefore to provide and/or enhance the knowledge and skills of students belonging to different professional figures, promoting dialogue, interexchange, and communication between all the different professional fellows.

### 4.1 Specific goals

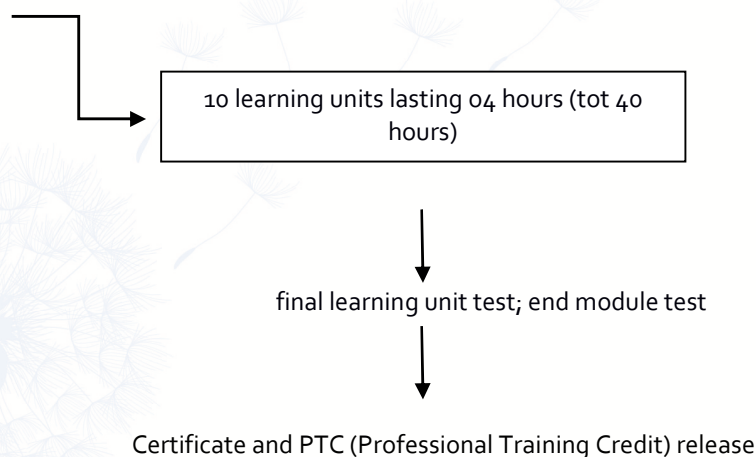
The specific objectives of the training format differ according to the trainees' category. As per the basic training module, the goal is to share a common language that leads to a simpler dialogue between the professionals involved.

The advanced module, on the other hand, requires the students to achieve a higher goal, that is to try to simulate a rehabilitation of a condominium building, beginning from the proposal of intervention and from the decision-making process in condominium assembly up to its realization. On this occasion, the course leaders will aim at applying the theoretical assumptions and managing a constant dialogue with the other professional participants.

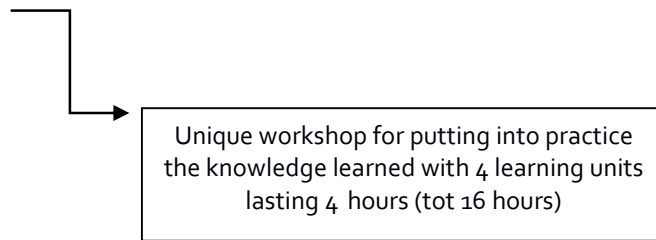
## Chapter 5 Course structure

The training program includes classroom activities and extra-class activities, divided into two teaching modules: one base and one advanced. The suggestion is that the classroom activities will take place once a week (tentatively on Thursdays, with a timetable to be scheduled but approximately from 14.00 to 18.00). However, it will be the responsibility of each partner to organize the modules according to the schedules and frequencies deemed most appropriate in their area.

**A) Basic Module:** 4 DISCIPLINARY AREAS (Management Area, Legal Area, Tax-Economic Area, Technological Area)



## B) Advanced Module: MIXED AREAS



Module final report with presentation by the working group

Certificate and PTC release

### 5.1 Course contents

#### A) BASIC MODULE

The module is structured shaping of a gradual and collective exploration path on the 4 most relevant thematic areas in the process of integrating the skills and experiences of the participants, so as to merge them into a community of practice characterized by an interdisciplinary approach and to initiate a process of transdisciplinary lifelong learning, in which they will develop knowledge and experiences no longer exclusively relevant to their main professional competence and a mentality open to confronting knowledge, experiences and sensibilities other than their own. The learning units will have the contents listed below. The basic module will be implemented during the first ten weeks of the course and each unit will be characterized by sessions lasting 4 hours. The interaction with the classroom will be dynamic and supported by audio and slide tools to facilitate participants apprentice. Each teacher will have to prepare his/her material beforehand, in order to give the participants the opportunity to take a look on it before the meeting. During the basic module, the case studies to be treated in the advanced module will be gradually introduced; the choice to introduce such cases already in the second part of the basic module is motivated by the need to provide the working groups with enough time to begin analyzing the case features and starting the job setting. All material will be made available to the students on the specific web platform prepared by the project implementer.

The thematic areas and the proposed training contents are reported below. Each partner will then take care to personalize the contents according to their territorial needs.



## MANAGEMENT AREA

INTEGRATED DESIGN AND COMMUNICATION TECHNIQUES	<ul style="list-style-type: none"> <li>- definition of integrated design (iterative, participative and lean process (agile project management + lean thinking))</li> <li>- keywords (collaboration and participation, consensus on project objectives, timing and benchmarks, identification of realistic strategies for the project; multidisciplinary; environmental-social-economic sustainability; management of agile processes; information sharing; transmissibility of the experience (lessons learnt))</li> <li>- roles and figures involved in the PI process</li> <li>- PI culture, route, facilitation and coordination</li> <li>- effective interdisciplinary communication: methodologies, techniques, comparison</li> </ul>	Xxxx Yyyy	8
DECISION-MAKING PROCESSES AND MANAGEMENT	<ul style="list-style-type: none"> <li>- what are the best ways to tackle a problem and the decision-making techniques to make different professions dialogue</li> <li>- continuous improvement and Deming cycle (plan-do-check-act)</li> <li>- goal-oriented approach (Goal Oriented Project Planning GOPP methodologies)</li> <li>- problem solving</li> </ul>	Xxxx Yyyy	4

## JURIDICAL AREA

3	LAW OVERVIEW (1): CIVIL LAW ASPECTS	<ul style="list-style-type: none"> <li>- communion and condominium in buildings (general notions, civil law)</li> <li>- millesimal tables (notion, content, adoption, effectiveness, etc.)</li> <li>- condominium regulation (typologies, adoption, effectiveness, etc.)</li> <li>- management of common and individual assets (general rules, use, maintenance)</li> <li>- management of condominium and individual installations (installation, uninstallation, maintenance, etc.)</li> <li>- management of condominium expenses (distribution criteria, payees, recovery, etc.)</li> <li>- condominium decision-making processes (assembly, quorum, implementation of resolutions, appeals, etc.)</li> <li>- condominium administration and representation</li> <li>- condominium credits management</li> <li>- security and hygiene in the condominium</li> </ul>	Xxxx Yyyy	4
4	LAW OVERVIEW (2): ENVIRONMENTAL AND ENERGY ASPECTS	<ul style="list-style-type: none"> <li>- environmental aspects of upgrading (issues, regulatory framework, relevant subjects and authorities, procedures, limits and requirements)</li> </ul>	Xxxx Yyyy	4
5	LAW OVERVIEW (3): LIABILITY OF INDIVIDUALS AND BODIES	<ul style="list-style-type: none"> <li>- civil liability (general principles, typologies, subjects, special rules, damages and compensations)</li> <li>- criminal liability (general principles, typologies and cases, subjects, sanctions)</li> <li>- administrative responsibility (general principles, typologies and cases, subjects, sanctions)</li> <li>- responsibility of the bodies under Legislative Decree 231/2001 (general principles, typologies and cases, subjects, sanctions)</li> <li>- professional figures (the buyer, the designer of the works, the director of the works, the security coordinator during the</li> </ul>	Xxxx Yyyy	4

## TAX-ECONOMIC AREA

6	TAX OVERVIEW	<ul style="list-style-type: none"> <li>- overview on the relevant tax legislation</li> <li>- direct and indirect taxes relevant to the condominium</li> <li>- periodic fulfillment (compilations, communications, etc.)</li> <li>- incentives and facilities (general principles)</li> <li>- overview of incentives and facilitations (article 16bis TUIR, Ecobonus, special laws, reduced VAT, etc.)</li> <li>- practical handling of procedures and incentive and facilitation requirements</li> <li>- tax deductions (who can benefit from the deduction, the energy reparation of condominium parts: the sale of credit to the suppliers)</li> <li>- cumulability with other facilities (VAT applicable)</li> <li>- deductible expenses (type of expenditure, calculation, limits and breakdown of the deduction)</li> <li>- requirements (required certification, documents to be transmitted, abolition of the obligation to communicate to the Revenue Agency, how to make payments)</li> </ul>	Xxxx Yyyy	4
7	ECONOMIC-FINANCIAL SETTING OF INTERVENTIONS	<ul style="list-style-type: none"> <li>- monitoring, evaluating and reporting costs and consumptions</li> <li>- building up a project budget</li> <li>- financing a budget (project financing)</li> <li>- tackling variations and unforeseen events</li> <li>- negotiating with suppliers and / or service users</li> <li>- setting up and managing investment programs in upgrading (communicating them to condominiums)</li> </ul>	Xxxx Yyyy	4



## TECHNOLOGICAL AREA

8	CONDOMINIUM PLANTS AND ENERGY SAVINGS IN BUILDINGS	<ul style="list-style-type: none"> <li>- safety of the plants</li> <li>- professional requirements for condominium installations design</li> <li>- type of control over the projects expected by administrator - declaration of conformity</li> <li>- electrical system, elevator system, fire system</li> <li>- heating system (thermostatic valves, detachment from the heating system and criteria for cost contributing (involuntary consumption)) - energy saving (definition)</li> <li>- interventions concerned (energy upgrading of existing buildings) - Energy-saving technologies (building-plant system, heat generators, heating system, Energy Service Contract, hot water production in condominiums, other available technologies)</li> <li>- energy efficiency interventions in condominium facilities (energy audits and consumption analyses, energy efficiency measures applicable to the condominium, plant interventions)</li> <li>- plant engineering - interventions on building envelope: energy efficiency, structural problems, aesthetics</li> <li>- interventions on the building (renovation of the façade, insulation of the building) - quality of air in condominium facilities</li> </ul>	Xxxx Yyyy	4
9	STRUCTURAL AND ENERGY EFFICIENCY-ORIENTED INTERVENTIONS ON BUILDINGS	<ul style="list-style-type: none"> <li>- main relevant legislation</li> <li>- type of construction work: ordinary and extraordinary maintenance, restoration and conservation restoration, building refurbishment, etc,...</li> <li>- type of construction measures: free building activity, construction permit, complaint of initiation (D.I.A.) and conformity assessment (building sanatorium)</li> <li>- certificate of agility</li> <li>- contractor for construction work</li> <li>- interventions subjected to communication or not</li> <li>- types of qualifications: 'Scia', 'Scia' alternative to permission to build, permission to build, compliance certificate and feasibility permit, etc.</li> <li>Sanctions: supervision and control, types of building violation, responsible persons, types of penalties, conformity assessment (building amnesty), etc.</li> </ul>	Xxxx Yyyy	4

## B) ADVANCED MODULE

The module is structured as a unitary workshop in which participants will experience the progressive building of an interdisciplinary community of practice around one or more practical cases (in dossiers). All the cases, selected by the teachers in dialogue with the trainees, will be the subject of work during the advanced module, will be presented during the basic module, gradually, and will be analyzed by each working group using criteria such as the examples shown in the table below, not exhaustive. It will be the support of each working group, in order to have a clear feature of the work object and to start from a common basis. The operational grid will also be useful to the entire class of participants to map differences among the cases and to make a more accurate comparison.

COURS XXX: CASE STUDY CRITERIA ADVANCED MODULE									
GROUP	CASE NAME	LOAD ADMINISTRATOR	PLACE	YEAR OF CONSTRUCTION BUILDING	N. OF INHABITANTS	TENANTS	ENERGY BUILDING CLASS	IMPROVED INTERVENTIONS and YEAR	INTERVENTIONS TO BE REALIZED
						OWNERS			
G1 (...components)									
G2 (...components)									
G3 (...components)									
G4 (...components)									
G5 (...components)									



Working groups will be trained by the teachers co-ordination team taking into account multiple aspects; the criteria that will be considered will be basically three: territorial proximity of the workplace among the professionals; professional membership category (to ensure interdisciplinary distribution); level of knowledge and skills in place (to ensure a balanced distribution of trainees at different levels). From the following criteria the teachers will be able to form groups within them heterogeneous from the point of view of professionalism but numerically homogeneous among them, in which the trainees will succeed in interacting in a profitable and balanced way to achieve the course objectives all together. The following table contains a proposal of a list of data to be collected, as mentioned above, in order to create the working groups.

Teachers will work to put all the students in the best working condition, enhancing their potential, in dialogue with a condominium manager and (virtually) with their condominium members, simulating the three phases of a process of building upgrading and technological/managerial innovation, under the energy profiles and environmental sustainability. The course will also try to experiment a DSS (Decision Support System) model, that can be adapted to local urban realities, inspired by participatory models and local action plans (derived from the processes codified in Agenda 21 and Local Agendas 21), so that both course and community of practice proceeding from the course will be replicable in other contexts.

CRITERIA FOR TRAINING GROUPS WORKING – COURSE XXX								
N°	NAME	LAST NAME	EMAIL ADDRESS	CELL PHONE	PROFESSIONAL ORDER	WORKPLACE (city or zone)	SHORT DESCRIPTION OF THE COMPETENCES	CV
1								
2								
3								
4								
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This module will favor the use of the knowledge learned during the basic module, in order to apply in practice the principles and techniques of integrated design. The primary goal will be to build the ability of making the different professional categories dialogue among them and even with the condominium members. The advanced module will take place in the last three weeks of the course and each teaching unit will be characterized by an experiential training setting; for this reason the suggestion is to use 4-hour sessions, spaced out for one week, to give groups time to reprocess and perform connected work outside the classroom.

At the end of the advanced module, and therefore of the entire course, the working groups will be required to hold a reworking time, drawing a brief paper (up to 5 pages) aimed to be eventually exposed to the whole class and teachers, by using the most appropriate tool according to WG (boards, PPT, Prezi, video ...). Exposure must be managed in a coordinated manner by all members of the group and will serve as a stage for restitution of the learning process undertaken during the course; it will also be a time for discussion and dialogue with other groups on methods respectively applied and possible alternatives or hypotheses. The modalities of interaction with the classroom will be based on dialogue and continuous exchange between teachers and students; they will also be supported by suitable material for case simulation. Teachers will have to prepare the material beforehand, to give the participants the opportunity to take a look before the meeting. Among the materials foreseen for the advanced module, in order to give greater application



concreteness, the materials elaborated on building upgrading and energy efficiency from bodies and thematic or category-based aggregations operating in the territory (including, presentations for condominium members assemblies, brochures for condominium members, assembly resolutions formats, or whatever else made available by that subjects). All material will be made available to participants on the web platform specially crafted by the executing body.

The organization's proposal and division of the last part of the course are shown below.

### MIXED AREAS

	<b>GENERAL NOTE:</b> The module is structured as a unitary workshop where teacher will experiment the setting up of an interdisciplinary community of practice, by making all trainees work together in an imaginary dialogue with the condominium administrator and condominium members, simulating the three phases of a building upgrading and technological/managerial renovation process, under energy and environmental sustainability profiles. They also will try to experiment a DSS (Decision Support System) model that can be adapted to local urban realities so that both the course and community of practice derived from the course can be replicated in other contexts.		
10	<b>PLANNING PHASE</b>	<ul style="list-style-type: none"> <li>- selection of a pilot condominium</li> <li>- preliminary assessment about the state of building and its facilities, consumption, sustainability, condominium members' behaviours etc. (use of check-lists or other participatory evaluation tools)</li> <li>- selection of one or more technological and / or managerial innovations</li> <li>- interdisciplinary planning</li> <li>- simulated budget construction</li> <li>- simulation of the preliminary project financing</li> </ul>	Xxxx Yyyy 4
11	<b>DECISION PHASE (I)</b>	<ul style="list-style-type: none"> <li>- simulation of preliminary communication for condominium members</li> <li>- participatory data and opinion collection</li> <li>- communication of the project to be adopted</li> <li>- assembly convocation(s)</li> </ul>	Xxxx Yyyy 4
12	<b>DECISION PHASE (II)</b>	<ul style="list-style-type: none"> <li>- convening and holding joint assembly(ies)</li> <li>- individual communication management</li> <li>- conflict and / or resistance management</li> </ul>	Xxxx Yyyy 4
13	<b>IMPLEMENTING PHASE</b>	<ul style="list-style-type: none"> <li>Project start-up: - definitive assignments to professionals - selection of contractors - building practices and authorizations in general - negotiation with relevant authorities and bodies (e.g. GSE) - concrete implementation of project financing - start-up - work management - testing - training condominium members to implement changes in procedures and / or</li> </ul>	Xxxx Yyyy 4



## 5.2 Method of holding learning units

### A) BASIC MODULE

The didactic module should be mostly interactive, so as to involve the participants in learning process and to avoid the use of traditional front lesson method. Each lesson will have a coherent setting for all teachers:

The didactic mode should be mostly interactive, so as to involve the trainees in learning process and avoid the use of traditional front lesson method only. Each lesson will have a coherent setting for all teachers:

#### INTRODUCTORY MOMENT

Presentation of the learning units contents by the teacher supported by suitable graphic digital formats, additional to the normal Word (ppt presentation or other program such as Canva, Prezi, Pow toon, TimelineJS, Infogr.am).

#### BRAIN STORMING

The teacher in dialogue with the trainees first appraises the level of knowledge and experience of each participants in their respective subjects.

#### TREATMENT

The teacher uses the result of brain storming to deliberately address the themes of the unit. An appropriate number of slides or explanatory sheets (made with the aforementioned programs) is used and case studies are widely exposed to the class (video or other digital media). In this way, the class has the opportunity to appreciate the contents of the learning unit through several digital file previously uploaded on the Platform and to create shared spaces for reflection on what is observed and dealt with. The teachers will also take on the role of mediators, facilitating interaction and dialogue among the participants, so that everyone can bring their own experience in the field as added value.

#### TEST

The suggestion is to use a free platform, designed to be accessible to classrooms and any mobile device according to the commonly defined technique "Bring Your Own Device" (BYOD). The test results are readily accessible and, thanks to the configuration of the platform, can be viewed and saved in excel format for later use by the trainees and the teachers as well as the organizing body.



## B) ADVANCED MODULE

The advanced module's teaching methods will have to follow the technique of "learning by doing" (learning through concrete work, elaboration and reworking, simulations in which the trainee pursues a concrete professional goal by introducing his/her past knowledge, integrating new ones learned during the basic module). At the beginning of the advanced module, teachers will summarise the case studies distributed to the different groups at the basic module and exposing any specific points on which they intend to work during the course. After this brief moment, the teachers will take care to accompany working groups in treating the constituent points of the respective learning unit. Each group will accomplish its task and carry out the exercise in parallel, for the entire duration of the module, but with moments of comparison with the other groups, even intermediate. The approach of horizontal networking is privileged. The group work will be implemented until it is completed during the last meeting or training unit. During the meeting, the groups will work with teachers who will care to introduce or specify the new concepts. In this way trainees are expected to come into real relationship with each other and test themselves by putting into practice what they have learnt. For the success of such work of design and construction of the project, even some meetings with concrete condominium realities, attended by the members of the group, could be scheduled.

### 5.3 Meetings standard format

The following standard sequence for each lesson is assumed:

- trainees welcome, logistic arrangement check, settlement in working groups with specific placement in the classroom or through an identification object;
- distribution of any material necessary for the meeting;
- greetings from the teacher with a brief personal presentation and illustration of learning unit contents;
- beginning of the lesson, with a scheduled half-time break;
- time granted for any clarification;
- end-of-unit or end-of-module evaluation test;
- end-of-area questionnaire;
- test and questionnaire collection by the teacher;
- summary of upcoming tasks and events and final greetings.

## Chapter 6 Methodology

The methodological approach used will be interdisciplinary and aimed at making trainees to acquire transdisciplinary knowledge, skills and capabilities; indeed, it is good that the teachers belong to different professional figures, such as engineers, architects, lawyers, accountants. For this purpose, teaching-learning will be articulated in both classroom work - with mostly non-frontal lessons through a common and shared language among all participants as well as small exercises to be conducted in subgroups, in order to promote activities of integrated design - and work out of classroom, in-depth analysis, cognitive and experimental sedimentation and application to professional and personal context of each trainee.

The exercises will take place taking into account a homogeneous division of the trainees, evaluating the expressed skills and the peculiarities of the work; each group will be equally formed by craftsmen, technicians and condominium managers, so that comparison can be profitable.

The settlement will take place according to two criteria:

- territorial proximity;
- professional category of membership and skills.

The setting-up of the groups will gradually begin, already during the first module, and for this purpose the trainees at enrollment time will indicate the place of work and the professional category of reference as well as the skills, to enable



the coordination of the course of better manage group management according to the timescales dictated by the operating chronogramme.

In the advanced module, the working groups created by teachers will be able to profit from what they have learnt and spend on the professional relationships started during the basic module. The group will valorise what it has built and strengthen its identity in order to progress and grow together as a cohesive group and not just as the sum of the individuals who compose it.

The task of the group will be the drafting of a final report (up to 5 pages, submitted by the most appropriate means of communication). It will be built in interdisciplinary synergy, ensuring that the professional skills are combined in a conscious way to achieve the common goal. All the group members will have the task to expose the contents of the document to the whole classroom, so that they share both the methodological process undertaken and the final result obtained and trained themselves even in the difficult art of communicating ideas, projects and proposals to people of different skills, provenances, sensitivities.

## Chapter 7 Teaching coordinator

The co-ordination of the teachers, tutors or trainers of the course will be carried out by the executing body and will be managed through a course Educational-Scientific Coordinator (ESC). The role will be entrusted to a selected figure. He/she will design all the course (both contents and methodologies) and set up its management, also addressing the temporal and logistical aspects of lectures such as calendar, timetable, location, and supporting teachers in their work. His/her task will be to ensure that the teachers upload the material on the web platform in time for the meetings and to verify their presence as well as ensure the correct processing and administration of the end-of-unit or end-of-module tests. It will also have the task of addressing any difficulties faced by the teachers in postpone any meetings and / or managing unforeseen events arising in the management of the materials needed for meetings. ESC will be at their disposal for any event related to the logistical aspects of the entire course and can be reached by email or telephone, with the possibility of personal talks. Its further task will be monitoring the work of all the teachers, through regular meetings, verifying both the learning contents and the methodologies applied, in accordance with the present learning format. The ESC figure is necessary to ensure a globally high-quality standard the course participants.

## Chapter 8 Execution phases and chronogram- specific for the teaching

1. **Confirmation of accreditation of the course by all Professional Associations and pre-registration with expression of interest:** participants must have been admitted to the course after the evaluation of the prerequisites for the subsequent enrollment. The aspiring trainees will receive confirmation of the accreditation on the on-line platform in online and off-line mode on the mobile device. The deadline will be [please specify date]
2. **Course promotion:** dissemination of information material and their diffusion will be carried on, in addition to the promotion through the partners of Prepair project present in the respective territory of the course.
3. **Membership Collection:** subscriptions can be collected by securing the previous accreditation and authorization from the respective Professional Associations, using a digital educational platform managed by executing body, suitable for collecting online enrollments. The enrollment opening will run [please specify date]
4. **Realization of the course:** the course will start on 18.01.2018 and for the first edition will be held in the provincial capital. In the first meeting all participants will be given the "educational kit" necessary for attendance. This material will consist of: clipboard made with FSC certified paper, biodegradable pen and other materials necessary for carrying out each single training unit. To reduce paper consumption and facilitate the conduct of the meetings, all the electronic material will be provided to the students by a reasonable advance in



the digital educational platform mentioned above; in this way the coaches will be able to view the material in advance and evaluate if they need paper support or not. At the end of each learning unit, the trainees will face a mid-term test of real learning, regardless of the requirements needed for professional lifelong learning credits (see chapter COURSE STRUCTURE). The end of course is scheduled on [please specify date]

5. **Certificate release:** at the end of the course, after final tests, a certificate of attendance will be issued to all trainees who have attended at least 75% of the lessons. The issuance of certificates will be carried out by the Executing Body, through the digital platform.
6. **Professional lifelong learning credits release:** it will be processed according to the procedures for the respective Professional Associations of the trainees.

## Chapter 9 Logistics and technical equipment

In line with the style and the methodological approach of the course, the suggestion is that the logistics envisaged for its development will not be traditional. The classroom setting will be laboratorywise, with a setting suited to the need for constant interaction of the whole class. The desks should therefore be mobile, in order to encourage group work and interaction with the teacher. In addition, there will be adequate ICTs support to ensure interactive teaching. The basic devices at disposal will therefore be: a computer connected to a projector or multimedia interactive whiteboard (LIM), better with audio speakers, internet connection. These settings and equipment have been designed to ensure a certain agility in the course of training units, in favor of both teachers and tutors.

## Chapter 10 Expected results

The expected results of the training course are the achieved learning about the aspects related to buildings upgrading in a broad sense, and in particular the energy efficiency of existing condominium buildings, as well as the development of interdisciplinary competences that promote greater and fruitful dialogue between these figures, the formation of professional categories belonging to different orders to ensure that they work in synergies on the territory and with the territory, creating a common language that can be used by professionals. The release of the attestation to all participants in the course, the development of the ability by the trainees to convey what they learned to third parties.

## Chapter 11 Learning assessment

The course involves evaluating the trainer in multiple stages of the learning path. As mentioned in the paragraph "COURSE STRUCTURE", the evaluation phase will be differentiated according to the category of the individual trainee and this is why it will be personalised. The evaluation will take place in three distinct moments:

**End-of-course assessment:** in order to assess the trainee's learning during the course, an intermediate evaluation is scheduled at the end of each basic module's learning unit. This will be accomplished through the provision of a specially prepared test through the free digital platform accessible from every single student by any internet-based device, concerning the contents of the unit just treated. The test can be accomplished with a percentage of at least 70% right answers. In case of negative result, trainee will be able to repeat the test in online format in the following week. Test results will be announced immediately thanks to the functionality of the Free Platform.

**End-of-module evaluation:** at the end of the module a further test is scheduled, to certify the skills acquired by each trainee. In the case of the basic module, it will consist of a specially prepared test through a free Platform, concerning



the contents of the whole module. The test can be accomplished with a percentage of at least 60% right answers. In case of negative result, trainee will be able to repeat the test in online format in the following week. The test results will be immediately announced thanks to the functionality of the Free Platform.

**NOTA BENE.** the advanced module does not include an evaluation test like the basic module, but a project work and explanation by the trainees. Each working group will report to the whole class the results of its work, at the end of the module. The group will arrange a brief introduction to the classroom, with the contribution of all its members, not only reporting the final design proposal, but also the methods used and the dynamics occurred during the group work. In this way, the working groups will have to co-ordinate again mutually and have a feed-back moment on lessons learnt. The ways of reporting can range from video-making to the presentation of slides or infographics. In this stage, teachers will have the opportunity to give feed-back to all groups and to express comments on the entire path summarized in the final presentation. What mostly matters is the usability of presentations by future users (e.g. future course editions trainees, course organizers using this learning format, other operators interested in the process of upgrading the building heritage with techniques used by working groups, etc.).

**End-of-course evaluation:** the end-of-course evaluation will be carried out by the ESC, in dialogue with all the teachers, based on the results obtained in the tests and the final presentation at the advanced module. The evaluation will follow the specific criteria set out below, including them in a special synthesis document and also referring to each trainee. The trainee will, conversely, conduct his course assessment about the overall likelihood of the entire course, by full-filing an on-line questionnaire on the web Platform. Ad-hoc summary grids will be developed, to be used also for the continuous improvement of this educational format and to make more effective the work of the community of practice that will be created during the course, which is the permanent outlet of the initiative. At the end of the course, each candidate will be given the certificate of acquisition of the specific competences developed in the course by the Executing Body, validated by the ESC.

## Chapter 12 Assessment of the organization of the course

At the end of each unit and module, after the individual test, every participant will be provided with a short questionnaire about the content of the meeting (content of the unit, content clarity, logistics etc.).

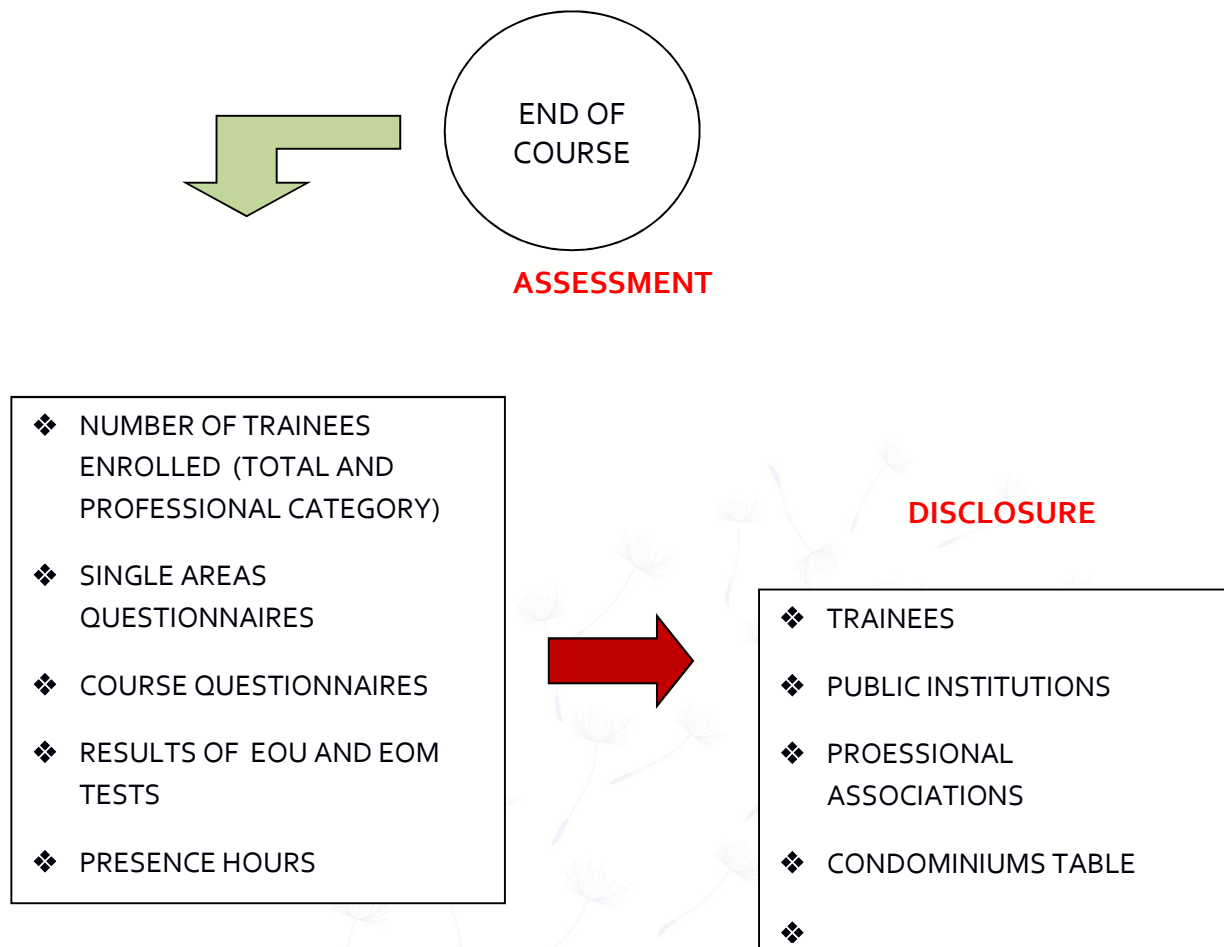
## Chapter 13 Learning project assessment, long-term monitoring and results valorization

At the end of the course, a short evaluation phase of the learning project will be carried on by the same proposing subject. It will be performed through the participatory processing of some indicators, which will then be applied, such as: number of subscriptions, end-of-unit likelihood questionnaires, end-of-course likelihood questionnaires, results of final tests, total hours of attendance by the trainees, final evaluation by the trainees, number of subjects enrolled for each professional category. The results will then be valued through targeted but at the same time capillary disclosure: they can be shared with the trainees and various other stakeholders, such as Professional Orders, Public and Private Entities involved in work tables or other similar aggregates, potential users of this format for the future course editions as foreseen by the project.





Below a diagram is reported, describing the participatory evaluation process.



### 13.1 Ex-post assessment

It is considered advisable to carry out an ex post evaluation by the organizing partner, within the year following the end of the course, in order to assess the impact of the initiative in terms of:

- dissemination of good practices,
- consolidation of synergies and planning within the established community of practice,
- replication of the course and training of additional stakeholders.

Such valuation may relate to different "common core evaluation concerns", i.e. the survey items on that the assessment need to be focused, which are reported below with the corresponding content specification, pointing out that each partner will organize the evaluation according to its own requirements:

**Relevance:** the qualitative assessment of the actual project response to contextual issues. the analysis will focus on: the degree of relevance met with the requirements of the context; whether the project's activities were appropriate for achieving the goals set; whether the activities and results were relevant to the expected results.

**Effectiveness:** the degree of goals achievement observed by a quantitative approach. It explores the extent to which the goals have been achieved and whether they can be achieved in a medium to long time; what were the factors that affected the lack or partial achievement of them.



**Impact:** The effect that the project has had on multiple factors (technical, economic, socio-cultural, institutional and environmental). In this case the detection technique will be qualitative and quantitative.

**Efficiency:** Economic aspects. Costs are valued and, benefits in relation to the goals achieved. The evaluator must see: whether the goals have been reached in as little time as possible and analyzing possible costs, not forgetting the quality of the result; whether the course was better than others; whether project management personnel had the ability to adapt, manage and make it flexible. Qualitative and quantitative technique.

**Sustainability:** Project ability to produce long-term impacts. The technique is qualitative. Certainly, the aforementioned concept leads to a reflection on the skills that the trainees will develop to convey the knowledge learned from potential third parties such as: colleagues, managers, collaborators, customers. The assessment will also focus on this aspect and, in parallel, one of the expected results will be the ability of the trainee to acquire and develop skills and knowledge to be transmitted to daily work.

For each item mentioned above, the most appropriate evaluation tool will be set up for the purpose of the survey. The entire ex-post evaluation process will be managed in synergy with APRIE, as the promoter of C-16 action in the PREPAIR project, in the most appropriate ways.

### 13.2 Long-term monitoring

Formal assessment will only be a first step in a monitoring path that the Executing Body would like to carry out over time, through innovative instruments that will involve trainees in the long term (long term follow-up).

In fact, it is recommendable that the PREPAIR partner performs a long-term ex-post evaluation.

The tools thought for this monitoring could be:

- **intensive workshops**, to collect feed-backs from the trainees and to know the actual usefulness of the course in the pursuit of their professional activity;
- **data and knowledge exchange platform** among the first edition and following editions (also possibly using widely spread social networks);
- **narrative formats** (fact-sheet, video interviews, documentaries or docu-fiction etc.) to disclose successful stories in which individual trainees or their spontaneous aggregations have engaged in professional initiatives inspired by participation in the course, thanks to the knowledge acquired and the relationships established.

It must be specified that each partner will organize long term monitoring, according to their needs.

## Chapter 14 Illustration and promotion of the format

In order to replicate its use and disseminate this training instrument, the Executive Body will also work on tools and initiatives to illustrate and promote the format.

By way of example only, the following categories of potential stakeholders are intended as reachable:

- Aggregate bodies in the program agreement (“Accordo di Programma”) related to PREPAIR and individual components of the coordination tables: oral presentation, brochures, video and pdf explanatory tutorial, post on web site, social networks
- Course participants: oral presentation, video and pdf explanatory tutorial
- Speakers: oral presentation, video and pdf explanatory tutorial
- Other interested parties in the respective territory: web site, social networks, webinar.

The concept that is intended to be promoted – through the use of agile media such as, for example, interviews with teachers, interviews with the classmates, short films on the different worksheets - is the continuity and effectiveness of a work progressing by stages and as such progressing during the development of the project up to achieving a potential independence of the groups created in the course. The course must be ment as one of the stages in building up a community of practice composed by professionals and in the future, more broadly, a thematic network of operators who collaborate and interact semi-autonomously in order to enhance the potential of a interdisciplinary network as a key factor in the transformation of the territory and the behaviours of local householders



## ATTACHMENTS

### Annex A. Learning contents programme

#### BASIC MODULE

##### Management area

Nr.	Learning units	Educational Contents	Lecturer	Hours
<b>GENERAL NOTE: The module is structured in shape of a gradual and collective exploration of the 4 most relevant thematic areas in the process of integrating trainees' skills and experiences, thus merging them into a community of practice characterized by an interdisciplinary approach and promoting in trainees a transdisciplinary life-long learning process</b>				
1	INTEGRATED DESIGN AND COMMUNICATION TECHNIQUES	<ul style="list-style-type: none"> <li>- definition of integrated design (iterative, participative and lean process (agile project management + lean thinking))</li> <li>- keywords (collaboration and participation, consensus on project objectives, timing and benchmarks, identification of realistic strategies for the project; multidisciplinary; environmental-social-economic sustainability; management of agile processes; information sharing; transmissibility of the experience (lessons learnt))</li> <li>- roles and figures involved in the PI process</li> <li>- PI culture, route, facilitation and coordination</li> <li>- effective interdisciplinary communication: methodologies, techniques, comparison</li> </ul>	Xxxx Yyyy	8
2	DECISION-MAKING PROCESSES AND MANAGEMENT	<ul style="list-style-type: none"> <li>- what are the best ways to tackle a problem and the decision-making techniques to make different professions dialogue</li> <li>- continuous improvement and Deming cycle (plan-do-check-act)</li> <li>- goal-oriented approach (Goal Oriented Project Planning GOPP methodologies)</li> <li>- problem solving</li> </ul>	Xxxx Yyyy	4

##### Juridical area

3	LAW OVERVIEW (1): CIVIL LAW ASPECTS	<ul style="list-style-type: none"> <li>- communion and condominium in buildings (general notions, civil law)</li> <li>- millesimal tables (notion, content, adoption, effectiveness, etc.)</li> <li>- condominium regulation (typologies, adoption, effectiveness, etc.)</li> <li>- management of common and individual assets (general rules, use, maintenance)</li> <li>- management of condominium and individual installations (installation, uninstallation, maintenance, etc.)</li> <li>- management of condominium expenses (distribution criteria, payees, recovery, etc.)</li> <li>- condominium decision-making processes (assembly, quorum, implementation of resolutions, appeals, etc.)</li> <li>- condominium administration and representation</li> <li>- condominium credits management</li> <li>- security and hygiene in the condominium</li> </ul>	Xxxx Yyyy	4
4	LAW OVERVIEW (2): ENVIRONMENTAL AND ENERGY ASPECTS	<ul style="list-style-type: none"> <li>- environmental aspects of upgrading (issues, regulatory framework, relevant subjects and authorities, procedures, limits and requirements)</li> </ul>	Xxxx Yyyy	4
5	LAW OVERVIEW (3): LIABILITY OF INDIVIDUALS AND BODIES	<ul style="list-style-type: none"> <li>- civil liability (general principles, typologies, subjects, special rules, damages and compensations)</li> <li>- criminal liability (general principles, typologies and cases, subjects, sanctions)</li> <li>- administrative responsibility (general principles, typologies and cases, subjects, sanctions)</li> <li>- responsibility of the bodies under Legislative Decree 231/2001 (general principles, typologies and cases, subjects, sanctions)</li> <li>- professional figures (the buyer, the designer of the works, the director of the works, the security coordinator during the</li> </ul>	Xxxx Yyyy	4



## Tax-Economic area

6	TAX OVERVIEW	<ul style="list-style-type: none"> <li>- overview on the relevant tax legislation</li> <li>- direct and indirect taxes relevant to the condominium</li> <li>- periodic fulfillment (compilations, communications, etc.)</li> <li>- incentives and facilities (general principles)</li> <li>- overview of incentives and facilitations (article 16bis TUIR, Ecobonus, special laws, reduced VAT, etc.)</li> <li>- practical handling of procedures and incentive and facilitation requirements</li> <li>- tax deductions (who can benefit from the deduction, the energy reparation of condominium parts: the sale of credit to the suppliers)</li> <li>- cumulability with other facilities (VAT applicable)</li> <li>- deductible expenses (type of expenditure, calculation, limits and breakdown of the deduction)</li> <li>- requirements (required certification, documents to be transmitted, abolition of the obligation to communicate to the Revenue Agency, how to make payments)</li> </ul>	Xxxx Yyyy	4
7	ECONOMIC-FINANCIAL SETTING OF INTERVENTIONS	<ul style="list-style-type: none"> <li>- monitoring, evaluating and reporting costs and consumptions</li> <li>- building up a project budget</li> <li>- financing a budget (project financing)</li> <li>- tackling variations and unforeseen events</li> <li>- negotiating with suppliers and / or service users</li> <li>- setting up and managing investment programs in upgrading (communicating them to condominiums)</li> </ul>	Xxxx Yyyy	4

## Technological area

8	CONDOMINIUM PLANTS AND ENERGY SAVINGS IN BUILDINGS	<ul style="list-style-type: none"> <li>- safety of the plants</li> <li>- professional requirements for condominium installations design</li> <li>- type of control over the projects expected by administrator - declaration of conformity</li> <li>- electrical system, elevator system, fire system</li> <li>- heating system (thermostatic valves, detachment from the heating system and criteria for cost contributing (involuntary consumption)) - energy saving (definition)</li> <li>- interventions concerned (energy upgrading of existing buildings) - Energy-saving technologies (building-plant system, heat generators, heating system, Energy Service Contract, hot water production in condominiums, other available technologies)</li> <li>- energy efficiency interventions in condominium facilities (energy audits and consumption analyses, energy efficiency measures applicable to the condominium, plant interventions)</li> <li>- plant engineering - interventions on building envelope: energy efficiency, structural problems, aesthetics</li> <li>- interventions on the building (renovation of the façade, insulation of the building) - quality of air in condominium facilities</li> </ul>	Xxxx Yyyy	4
9	STRUCTURAL AND ENERGY EFFICIENCY-ORIENTED INTERVENTIONS ON BUILDINGS	<ul style="list-style-type: none"> <li>- main relevant legislation</li> <li>- type of construction work: ordinary and extraordinary maintenance, restoration and conservation restoration, building refurbishment, etc...</li> <li>- type of construction measures: free building activity, construction permit, complaint of initiation (D.I.A.) and conformity assessment (building sanatorium)</li> <li>- certificate of agility</li> <li>- contractor for construction work</li> <li>- interventions subjected to communication or not</li> <li>- types of qualifications: 'Scia', 'Scia' alternative to permission to build, permission to build, compliance certificate and feasibility permit, etc.</li> <li>Sanctions: supervision and control, types of building violation, responsible persons, types of penalties, conformity assessment (building amnesty), etc.</li> </ul>	Xxxx Yyyy	4



## ADVANCED MODULE

	<b>GENERAL NOTE:</b> The module is structured as a unitary workshop where teacher will experiment the setting up of an interdisciplinary community of practice, by making all trainees work together in an imaginary dialogue with the condominium administrator and condominium members, simulating the three phases of a building upgrading and technological/managerial renovation process, under energy and environmental sustainability profiles. They also will try to experiment a DSS (Decision Support System) model that can be adapted to local urban realities so that both the course and community of practice derived from the course can be replicated in other contexts.			
10	PLANNING PHASE	<ul style="list-style-type: none"> <li>- selection of a pilot condominium</li> <li>- preliminary assessment about the state of building and its facilities, consumption, sustainability, condominium members' behaviours etc. (use of check-lists or other participatory evaluation tools)</li> <li>- selection of one or more technological and / or managerial innovations</li> <li>- interdisciplinary planning</li> <li>- simulated budget construction</li> <li>- simulation of the preliminary project financing</li> </ul>	Xxxx Yyyy	4
11	DECISION PHASE (I)	<ul style="list-style-type: none"> <li>- simulation of preliminary communication for condominium members</li> <li>- participatory data and opinion collection</li> <li>- communication of the project to be adopted</li> <li>- assembly convocation(s)</li> </ul>	Xxxx Yyyy	4
12	DECISION PHASE (II)	<ul style="list-style-type: none"> <li>- convening and holding joint assembly(ies)</li> <li>- individual communication management</li> <li>- conflict and / or resistance management</li> </ul>	Xxxx Yyyy	4
13	IMPLEMENTING PHASE	Project start-up: - definitive assignments to professionals - selection of contractors - building practices and authorizations in general - negotiation with relevant authorities and bodies (e.g. GSE) - concrete implementation of project financing - start-up - work management - testing - training condominium members to implement changes in procedures and / or	Xxxx Yyyy	4

## Annex B. Preparatory Activity Chronogramme

OPERATING CHRONOGRAM 2017/2018		
DATE	OPERATIONAL PHASE AND CONTENTS	SUBJECT OPERATOR
XX/XX/XX	Confirmation of accreditation of the course by all professional orders and pre-registration with manifestation of interest	
XX/XX/XX	Course promotion	
XX/XX/XX	Collecting subscriptions	
XX/XX/XX	Realization of the Course	
XX/XX/XX	Certifications Release	
XX/XX/XX	Credits Release by the respective Professional Orders (defined by individual Orders)	



## Annex C. Proposals for indicators for the final evaluation

EVALUATION INDICATORS			
INDICATOR	DATE OF DETERMINATION	DETECTION INSTRUMENT	DETECTOR SUBJECT
1.1 Number of trainees enrolled in the course			
1.2 Number of subscribers per training unit			
2.1 Total number of attendance hours			
2.2 Total attendance times of the individual trainee			
2.3 Total hours of attendance per module			
3.1 Number of registered members belonging to each professional category			
4.1 Number of satisfaction questionnaire at the end of the unit			
4.2 Number of satisfaction questionnaire at the end of the course			
5.1 Outcomes of the audits of end unit and module			
5.2 Number of successfully tested trainees			
6.1 Number of case studies examined			
6.2 Number of cases produced by the exercises			





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## **IL PROGETTO PREPAIR**

*Il Bacino del Po rappresenta un'area di criticità per la qualità dell'aria, con superamenti dei valori limite fissati dall'Unione Europea per polveri fini, ossidi di azoto ed ozono. Questa zona interessa il territorio delle regioni del nord Italia ed include città metropolitane quali Milano, Bologna e Torino.*

*L'area è densamente popolata ed intensamente industrializzata. Tonnellate di ossidi di azoto, polveri e ammoniaca sono emesse ogni anno in atmosfera da un'ampia varietà di sorgenti inquinanti legate soprattutto al traffico, al riscaldamento domestico, all'industria, alla produzione di energia ed all'agricoltura. L'ammoniaca, principalmente emessa dalle attività agricole e zootecniche, contribuisce in modo sostanziale alla formazione di polveri secondarie, che costituiscono una frazione molto significativa delle polveri totali in atmosfera.*

*A causa delle condizioni meteo climatiche e delle caratteristiche morfologiche del Bacino, che impediscono il rimescolamento dell'atmosfera, le concentrazioni di fondo del particolato, nel periodo invernale, sono spesso elevate.*

*Per migliorare la qualità dell'aria nel Bacino padano, dal 2005, le Regioni hanno sottoscritto Accordi di programma in cui si individuano azioni coordinate e omogenee per limitare le emissioni derivanti dalle attività più emissive.*

*Il progetto PREPAIR mira ad implementare le misure, previste dai piani regionali e dall'Accordo di Bacino padano del 2013, su scala più ampia ed a rafforzarne la sostenibilità e la durabilità dei risultati: il progetto coinvolge infatti non solo le Regioni della valle del Po e le sue principali città, ma anche la Slovenia, per la sua contiguità territoriale lungo il bacino nord adriatico e per le sue caratteristiche simili a livello emissivo e meteorologico.*

*Le azioni di progetto riguardano i settori più emissivi: agricoltura, combustione di biomasse per uso domestico, trasporto di merci e persone, consumi energetici e lo sviluppo di strumenti comuni per il monitoraggio delle emissioni e per la valutazione della qualità dell'aria su tutta l'area di progetto.*

### **DURATA**

*Dall'1 febbraio 2017 al 31 gennaio 2024.*

### **BUDGET COMPLESSIVO**

*A disposizione 17 milioni di euro da investire nell'arco di 7 anni: 10 quelli in arrivo dall'Europa.*

### **FONDI COMPLEMENTARI**

*PREPAIR è un progetto LIFE integrato: oltre 850 milioni di euro provenienti dai fondi strutturali (risorse regionali e nazionali dei diversi partner) per azioni complementari che hanno ricadute sulla qualità dell'aria.*

### **PARTNER**

*Il progetto coinvolge 17 partner ed è coordinato dalla Regione Emilia Romagna - Direzione Generale Cura del Territorio e dell'Ambiente.*





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REGIONE DEL VENETO



PROVINCIA AUTONOMA DI TRENTO



Agenzia Regionale per la Prevenzione e Protezione Ambientale del Veneto



Agenzia Regionale per la Prevenzione Ambientale



Agenzia Regionale per la Protezione dell'Ambiente



Agenzia Regionale per la Prevenzione e Protezione Ambientale del Friuli Venezia Giulia



Comune di Bologna



Comune di Milano



CITTA' DI TORINO



Emilia-Romagna **Mobilizzazione** Economia Terziaria



Fondazione Lombardia per l'Ambiente