



D.T1.2.1

Public operators' training needs report

WP T1: Activity 1.2 Public operators' training needs and contents

The report sums-up interviews and available data on training needs by public operators to manage Regional Energy Plans and financial resources. A CV profile is drafted together with the training processes addressed to coordinators and operators.

Prepared by	ENVIROS, s.r.o. Pavel Ruzicka, Katerina Maneva Mitrovikj
Project number and acronym	CE 1131 FIRECE
Lead partner	Chamber of Commerce of Venice Rovigo Delta-Lagunare
Address	Dykova 53/10, Praha, Czech Republic
Email	pavel.ruzicka@enviros.cz
Date, venue	29th June 2018, Prague



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Introduction

The FIRECE project aims to contribute to the implementation of the Regional Energy Plans to achieve the targets on energy efficiency and renewable energy sources planned at EU and national level with particular attention to industry.

This report sums-up available data (desk research and interviews) on training needs by public operators to manage Regional Energy Plans (REP) and relevant financial resources. A CV profile of the operator in charge to implement and manage REPs is drafted together with the training processes addressed to energy plans coordinators and operators.

1 Energy planning

The basis for energy planning in EU is given by the 2020 Climate and Energy Package,¹ which consists of a set of binding legislation to ensure that the EU meets its climate and energy targets for the year 2020. The package sets three key targets that include 20% cut in greenhouse gas emissions (from 1990 levels), 20% of EU energy from renewables, and 20% improvement in energy efficiency.

The targets are translated by EU Member States into their energy plans, which are developed at national, regional and local level:

- **National level:** The national energy plans transpose EU-wide targets into national energy frameworks and set basic conditions for development and implementation of regional and local energy plans.
- **Regional level:** In countries with a higher degree of autonomy of regions, regional energy planning is the most important level. While at national level, only general goals (usually in a form of energy strategy/policy) are set, each region can autonomously decide how to achieve these goals. On the other hand in countries with centralized administration and governance, regional energy planning plays a less important role and several measures and activities are already set in national plans. These measures and activities should be respected by regional plans.

¹ https://ec.europa.eu/clima/policies/strategies/2020_en



- **Local level:** Some cities and municipalities develop their local energy plans, for instance SECAP² plans under Covenant of Mayors initiative.³ These plans are also implemented autonomously, but should refer to regional and national energy plans and their goals.

While energy plans developed at national, regional and local levels are quite well linked together in several countries, in others there is a lack of coherence, and energy plans at different levels are not consistent enough.

At the same time, it is necessary to point out that public operators has only limited possibilities to directly influence energy performance (i.e. energy efficiency and use of RES) of industry and other private organizations. Therefore, energy plans mostly address energy issues of public infrastructure, public buildings, organizations owned and managed by public authorities, and energy aspects in relation to citizens (e.g. housing, public transport). However, energy issues in industry are also covered to a certain extent; companies are encouraged to implement energy efficiency and RES measures, and some financial support schemes target them specifically.

2 Energy planning in partner regions

In the partner regions, energy planning plays an important role in the overall planning policy both at national level and at regional level.

The partners identified relevant energy planning documents (strategies and action plans), which were analysed from different points of view, including a level of implementation, motivation, thematic focus, industry involvement, support mechanisms used, and evaluation processes.

² Sustainable Energy and Climate Action Plan

³ The Covenant of Mayors (CoM) is the world's largest movement for local climate and energy actions. Signatories of the CoM voluntarily commit to increasing energy efficiency and the use of renewable energy sources on their territories.



2.1 Level of implementation

In countries with centralized administration and governance (e.g. Croatia, Czech Republic, Hungary), the core of energy planning lies at national level, where most of energy strategies and plans are developed. However at regional level, some kind of energy strategic documents is also implemented.

In countries with high level of decentralization (e.g. Italy, Germany), the participating regions develop and implement their regional energy plans, while at national level, there exist energy strategies of a more general nature.

Some regions also identified a local level (i.e. municipalities) to be an important player in energy planning.

Table 1: Energy strategies and plans in partner regions

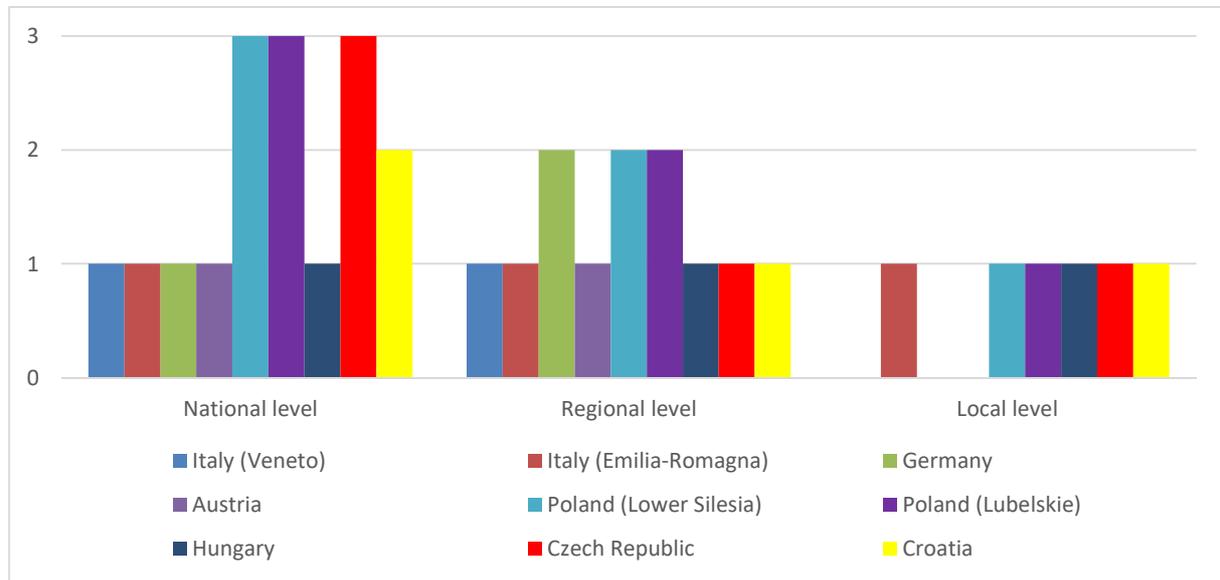
Country	National plans	Regional plans	Local plans
Italy (Veneto)	1	1	
Italy (Emilia-Romagna)	1	1	Yes
Germany	1	2	
Austria	1	1	
Poland (Lower Silesia)	3	2	Yes
Poland (Lubelskie)	3	2	Yes
Hungary	1	1	Yes
Czech Republic	3	1	Yes
Croatia	2	1	Yes

Source: Own, based on FIRECE survey

Note: For local energy plans, the table does not indicate a concrete number of plans, but only their existence (if deemed important by the partner). Usually, they are implemented in a form of SECAP under the Covenant of Mayors.



Figure 1: Energy strategies and plans in partner regions



Source: Own, based on FIRECE survey

In most of the regions, Regional Energy Plans are developed on a voluntary basis. Some countries (Germany, Poland, Czech Republic, Croatia) require regional government to develop REPs obligatorily in order to ensure that goals and measures, which are set at national level, are sufficiently transposed into regional plans.

However for regions, there are several motivating factors other than legislative requirements to implement Regional Energy Plans. The following are the most important mentioned by interviewed regional representatives:

- Systematic planning of energy efficiency and renewable energy sources development;
- Planning of energy supply and demand;
- Environmental protection (reduction of environmental impacts from energy generation and consumption);
- Economic and social development of a region;
- Creating business opportunities and jobs;
- Funding from Operational Programmes (regional energy plan as a basis document for OP).



2.2 Thematic focus of energy plans

Energy plans (and strategies) are documents that fully address the most important areas of a low-carbon economy. In all partner regions, energy efficiency in buildings and industry is covered as well as planning of development of renewable energy sources. Several energy plans also deal with the issue of energy security in relation to projected energy demand and so necessary energy supply. The issue of low-carbon mobility is covered only by a few energy plans.

Table 2: Thematic focus of energy plans

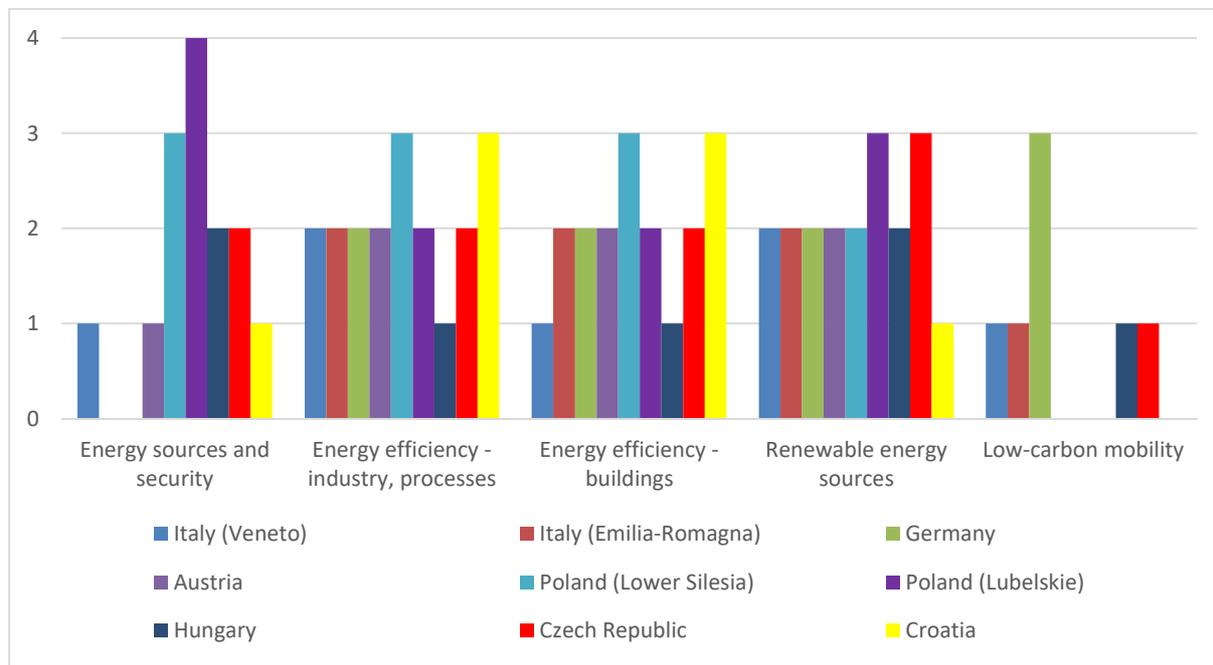
Country	Energy sources and security	Energy efficiency in industry	Energy efficiency in buildings	Renewable energy sources	Low-carbon mobility
Italy (Veneto)	1	2	1	2	1
Italy (Emilia-Romagna)		2	2	2	1
Germany		2	2	2	3
Austria	1	2	2	2	
Poland (Lower Silesia)	3	3	3	2	
Poland (Lubelskie)	4	2	2	3	
Hungary	2	1	1	2	1
Czech Republic	2	2	2	3	1
Croatia	1	3	3	1	

Source: Own, based on FIRECE survey

Note: For local energy plans, the table does not indicate a concrete number of plans, but only their existence.



Figure 2: Thematic focus of energy plans



Source: Own, based on FIRECE survey

2.3 Involvement of industry

2.3.1 Industry-related objectives in energy plans

At national level as well as regional and local level, industry is addressed by energy plans only to a limited extent. Energy plan operators cannot directly influence energy consumption of private companies, therefore the energy plans focus primarily on areas and variables that the operators can control. They include public buildings, public transport, organizations and companies that are partly or entirely owned by the regional or local authorities, residential housing, etc.

Although in most energy plans, objectives or specific targets on energy efficiency or renewable energy use in industry are not defined, there are a few examples of such objectives/targets:

- The Regional Energy Plan of Emilia Romagna Region in Italy has a specific section dedicated to industry sector with a target of increasing the energy efficiency of industries of about 4% per year.
- Energy Development Strategy of Lower Silesia, Poland sets the target of reduction of primary energy consumption in industry by 20%.



- The Regional Energy Plan - Renewable Sources, Energy Saving and Energy Efficiency (PERFER) in Veneto, Italy identifies levels of potential energy conservation.

The most common way how industry is supported through energy plans is a use of financial mechanisms (including ERDF funding) for energy efficiency and renewable energy projects.

In some energy plans, potential measures are provided as an example of such projects, for instance recovery and reuse of thermal losses, co-generation, self-production from renewable sources, implementation of energy management systems, etc.

2.3.2 Industry involvement in energy planning process

In all partner regions, industry has a possibility to influence a shape and a content of energy plans. Their representatives are involved into the development process mostly through business support organizations, such as industrial associations or chambers of commerce. Often, they also participate in (public) consultation processes.

In some regions, industry representatives take part also in energy plans implementation and monitoring being the members of steering/monitoring committees. At operational level, they participate in working meetings or workshops.

2.4 Support mechanisms

The energy plans usually identify concrete instruments and mechanisms that can be used to support implementation and realization of measures that are described in the plan.

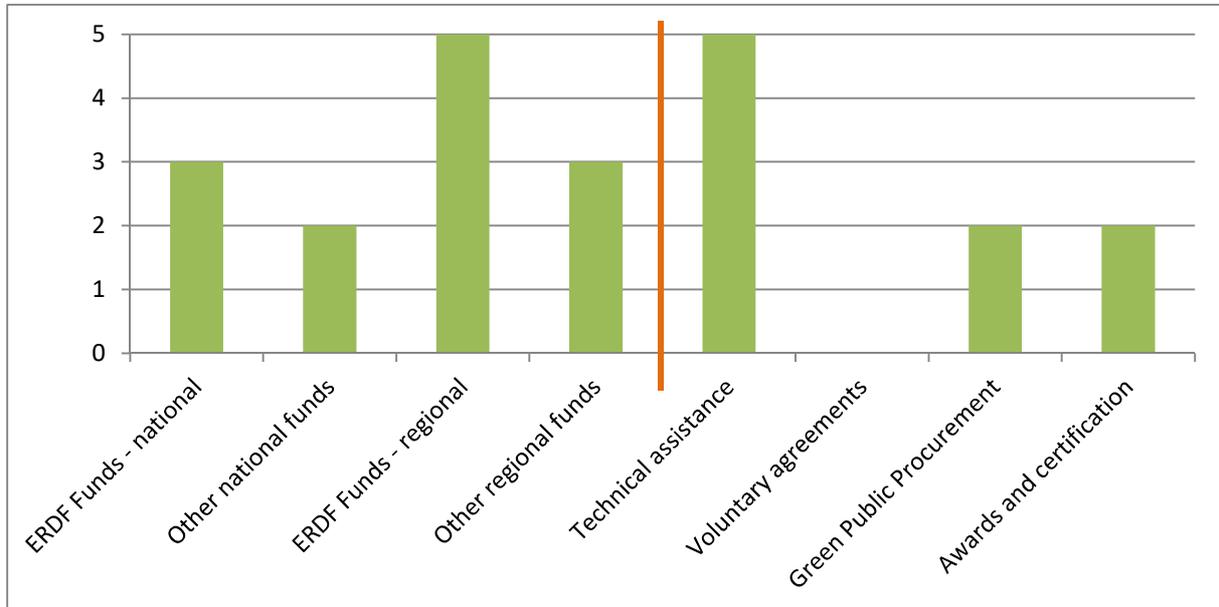
The operators mostly rely on financial mechanisms that are available in their regions, which includes primarily Operational Programmes financed from ERDF (national or regional OPs) and funding programmes provided either from national or regional budget.

Only about two fifths of support mechanisms are provided in a form of non-financial instruments, such as technical assistance programmes, green public procurement, and awards and certification schemes. In particular, they include for instance establishment of a programme to support industrial companies in conducting energy reviews and setting up an energy management system, establishment of benchmarking of energy indicators, education and training



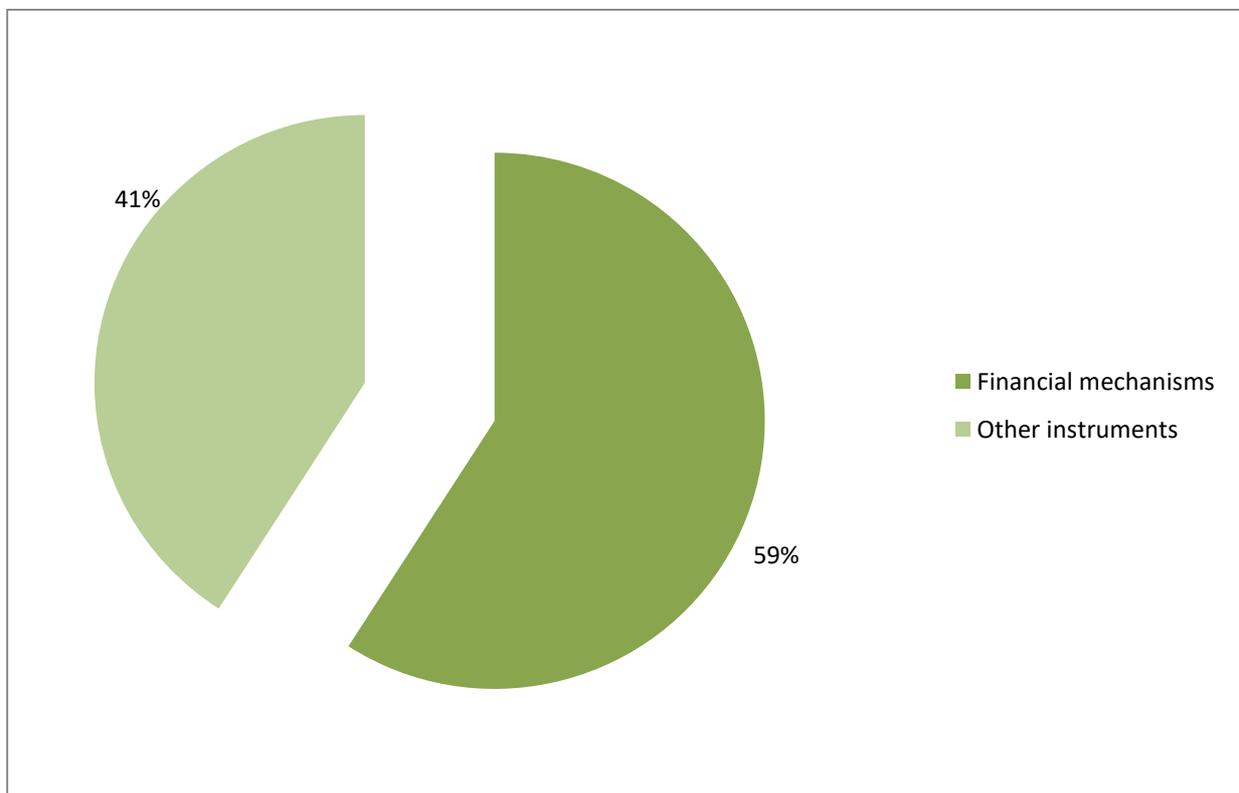
programmes, promotion of energy services, development of a catalogue of non-financial pro-innovation services provided by the business support institutions, etc.

Figure 3: Support mechanisms included in Regional Energy Plans



Source: Own, based on FIRECE survey

Figure 4: Proportion between financial mechanisms and other types of instruments



Source: Own, based on FIRECE survey



Table 3: Support mechanisms included in Regional Energy Plans

Country	ERDF Funds - national	Other national funds	ERDF Funds - regional	Other regional funds	Technical assistance	Voluntary agreements	Green Public Procurement	Awards and certification
Italy (Veneto)			1	1				
Italy (Emilia-Romagna)			1	1				
Germany					1			1
Austria		1	1					
Poland (Lower Silesia)			1		1		1	
Poland (Lubelskie)			1		1			
Hungary	1							
Czech Republic	1				1			
Croatia	1	1		1	1		1	1

Source: Own, based on FIRECE survey



2.5 Evaluation of energy plans

The evaluation of energy plans is carried out in order to evaluate their efficiency and impact. It can be implemented in a form of ex-ante or ex-post evaluation:

- **Ex-ante evaluation** is a process that is carried out in a preparatory phase of an Energy Plan development. The goal of this evaluation is to assess the Energy Plan efficiency and expected impacts, and to improve its quality. It focuses on assessment of intervention logic, strategic objectives, link of planned activities to other existing mechanisms, proposed indicators and system of evaluation.
- **Ex-post evaluation** is a process that is carried out after an Energy Plan implementation (in the final implementation stage). The goal of this evaluation is to assess overall performance of the Energy Plan, achieved results and impacts (compared to what was planned/expected), efficiency of used resources, sustainability of the results, and to provide conclusions and recommendations for future plans.

The evaluation of energy plans takes place in all regions. Mostly it is implemented in a form of both ex-ante and ex-post evaluation, although a few regions carry out only one type of evaluation.

In some partner countries, evaluation is implemented based on a standardized methodology or procedure (Italy, Austria), or a pre-defined set of indicators (Poland). However in majority of regions, concrete procedures for evaluation are not set in advance.

Table 4: Evaluation of energy plans

Country	Ex-ante evaluation	Ex-post evaluation
Italy (Veneto)		1
Italy (Emilia-Romagna)	1	1
Germany		1
Austria		1
Poland (Lower Silesia)	1	1
Poland (Lubelskie)	1	1
Hungary	1	

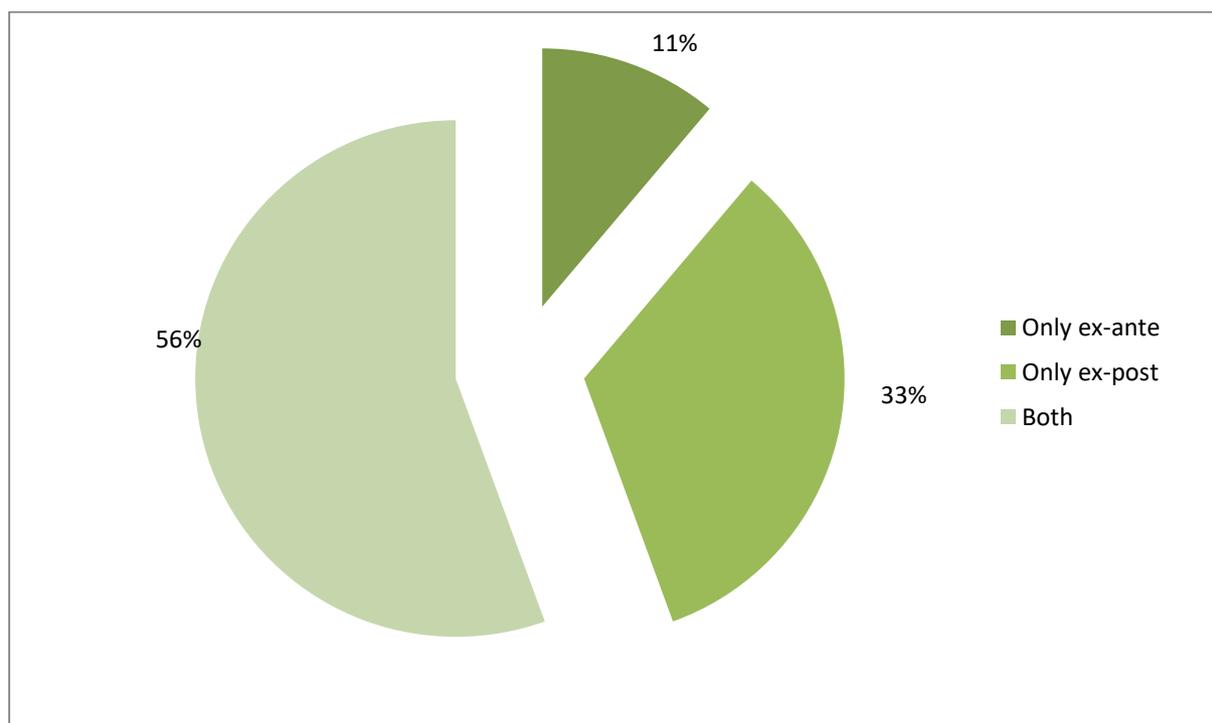


Czech Republic	1	1
Croatia	1	1

Source: Own, based on FIRECE survey

Note: Ex-post evaluation includes also evaluation that takes place during the implementation of an energy plan (i.e. interim evaluation).

Figure 5: Evaluation of energy plans



Source: Own, based on FIRECE survey

3 Public operators' training needs

In all partner regions, the energy plan operators receive training on the issues relevant to energy planning. While some training focus more on technical topics (e.g. energy efficiency, energy management, intelligent mobility, environmental protection, etc.), several trainings address financial topics. The latter ones consist primarily of trainings on ERDF funding and its operation.

The trainings are often designed for regular staff of institutions that operate the Energy Plans and/or Operational Programmes, whereas less training is provided to coordinators and managers of those institutions.



3.1 Barriers and information gaps

When being asked about the main barriers and information gaps, which complicate implementation of energy plans and relevant financial and other support mechanisms, the interviewees pointed out in particular the issues that make it difficult to implement measures and projects at individual level (i.e. by organizations and companies, alternatively individuals).

Most barriers relate to funding programmes, from which administrative barriers are perceived as the most burning ones. In particular, a complexity of applications (i.e. variety of requested documents and evidences) is too high, and an evaluation phase is often too long. Potential applicants may also not be aware of existing national and regional funding mechanisms that could be used for financing of their projects.

Many companies also lack knowledge about reasonable energy actions they could take, while they do not receive enough support from experts who could help them identify suitable energy actions. Several environmental measures have to be implemented by companies because of law requirements, which reduce their capacity (time, staff, resources) for introduction of further energy measures.

Regions and municipalities implementing energy plans can directly influence energy consumption and use of renewable energy sources of the public sector they represents (e.g. public buildings, local transport, street lighting, etc.). However, the potential of measures carried out in this sector is far from achieving the national (and European) energy targets; therefore considerable efforts must be made to convince private sector to invest into energy measures.

3.2 Training topics

Based on the described barriers, partners experience and interviews with relevant stakeholders who are involved in energy planning and implementation of financial mechanisms, the following topics for training were identified and will be taken into account in the development of the training content.



Table 5: Potential training topics identified by the partners

Area	Training topic
Planning and management	<ul style="list-style-type: none"> • Role of spatial planning in the energy planning process • Determination of energy demand based on reliable demographic forecasts • Guidelines for all levels of self-government administration on development of energy plans • Identification of opportunities for cooperation among local government units (common ground for energy planning) • Identification of opportunities for cooperation between public administration and private sector • Creation of interdisciplinary teams that could better manage energy plans
Energy - general	<ul style="list-style-type: none"> • EU energy policy and targets • Energy efficiency in buildings • Building and energy certifications • Overview of available technologies (division by technologies, e.g. photovoltaics, etc.) • Intelligent mobility (current trends, e.g. autonomous driving, e-mobility, charging infrastructure, etc.)
Energy projects in industry	<ul style="list-style-type: none"> • Details on energy efficiency and renewable energy projects • Energy efficient investments (to be in accordance with the regional/national energy plans) • Legal conditions and obligations for improving energy efficiency • Public aid for projects on energy efficiency and renewable energy sources • Energy audit of a company



Area	Training topic
Monitoring and evaluation	<ul style="list-style-type: none"> • Tools, guidelines and methodologies for evaluation of an energy plan • Indicators to monitor the implementation of an energy plan
Financing energy projects	<ul style="list-style-type: none"> • Funding programmes at both European and national/regional level • Financial instruments in Cohesion Policy (ERDF/ROP) • Types of (innovative) financial instruments • Setting up and managing financial instruments • How to set up and implement innovative financing campaigns (e.g. crowdfunding campaigns) - timeframe, channels addressed, stakeholders involved, etc. • How to attract private investors for energy projects (e.g. Venture Capital, Business Angels) • Public procurement in the implementation of financial instruments • Avoiding double financing in the energy sector



4 Training course

4.1 Training course structure

The proposed structure of the training course consists of five basic thematic blocks; each block is divided into several modules that focus on specific topics. The training course is designed to cover 40 hours.

Table 6: Training course structure

Thematic block	Hours	Modules
1 EU Energy Policy and Objectives	4	<ul style="list-style-type: none"> • EU energy-related strategy and policy documents • Energy Efficiency, Renewable Energy Sources and Greenhouse Gases goals • Current situation in the EU • Role of the Industry • Support for the Industry
2 Management of Energy Plans	9	<ul style="list-style-type: none"> • Developments of (regional) Energy Plans • Stakeholders and networking, participatory approach • Industry involvement • Local Energy Plans- SEAPs/SECAPs • Monitoring and evaluation, indicators
3 Development of Financial Instruments	15	<ul style="list-style-type: none"> • Financial mechanisms • Public support mechanisms • ERDF & Financial Instruments • Energy Performance Contracting • Development process • Monitoring and evaluation, indicators
4 Monitoring the Impact of Public Investment	8	<ul style="list-style-type: none"> • Monitoring and evaluation, indicators • Methodologies • Program/Project level monitoring



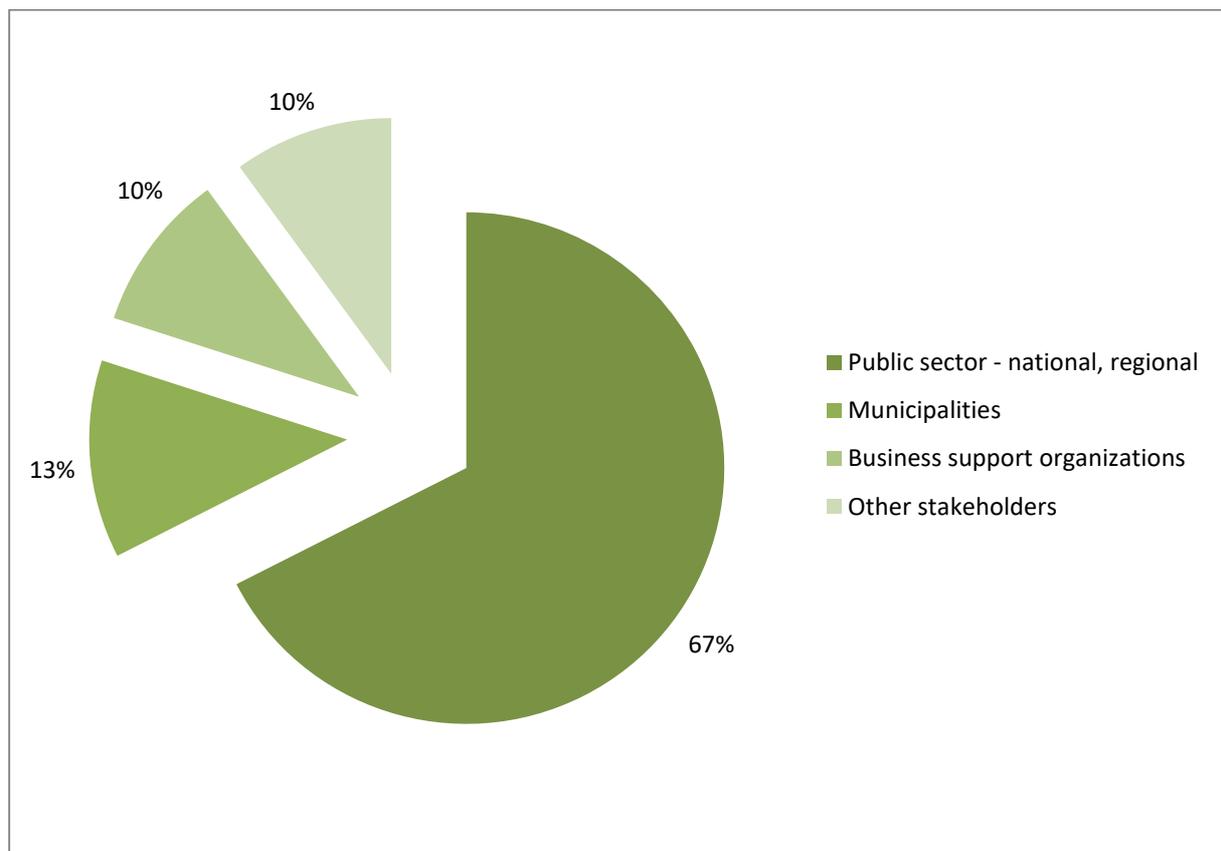
<p>5 Support for SMEs to Invest into Energy Efficiency</p>	<p>4</p>	<ul style="list-style-type: none"> • Barriers restricting SMEs investments in energy efficiency • Energy to become priority • Non-financial instruments
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4.2 Stakeholders to be trained

The project partners have already identified potential participants of the training course. The majority are representatives of public authorities and agencies at national or regional level, which includes mostly national ministries, regional governments and public agencies at both levels.

Some of the partners also suppose targeting municipalities, business support organizations and a few other stakeholders (e.g. energy experts and consultants, companies, students).

Figure 6: Types of stakeholders to be trained



Source: Own, based on FIRECE survey



5 Draft CV profile

A CV⁴ profile as understood by FIRECE project is a definition of competences, knowledge, qualifications and expertise that the coordinators and operators dealing with Regional Energy Plans should have in order to efficiently implement and manage the plans.

The profile is based on the structure of the training course, which shall provide users with such expert information in order they were able to meet the requirements defined in the profile.

The draft CV profile is defined at the level of thematic blocks. The full CV profile (D.T1.2.4) will be detailed at the level of training modules.

⁴ Curriculum Vitae



Table 7: Draft CV profile

Block title	Block description	CV profile
1. EU Energy Policy and Objectives	The block provides information on the European targets in energy efficiency, renewable energy sources and reduction of greenhouse gas emissions, and the support in the industry sector in achieving them.	The trainee will be introduced with the policies and measures of the EU strategy in energy and climate (energy efficiency, renewable energy sources, GHG emissions), and will be able to understand existing industry support mechanisms.
2. Management of Energy Plans	The block provides knowledge on the development, implementation and management of Energy Plans, in particular at regional level.	The trainee will understand the role of energy plans (at regional, but also at local level), a planning process and an importance of stakeholder participation, including industry, and will be introduced with the evaluation processes. ⁵
3. Development of Financial Instruments	The block provides knowledge on how to develop, manage, monitor and evaluate financial mechanisms with particular focus on (innovative) financial instruments.	The trainee will understand what types of financial mechanisms exist for support of EE/RES in industry (ERDF funding, financial instruments, EPC), and what possibilities the public sector has to support industry investments, and will be introduced with the evaluation processes. ⁶

⁵ The evaluation processes will be further introduced in the block 4.

⁶ The evaluation processes will be further introduced in the block 4.



Block title	Block description	CV profile
4. Monitoring the Impact of Public Investment	The block provides information on monitoring the impact of public investment, and relevant methodologies and monitoring indicators.	The trainee will be introduced with the evaluation of the Public Investment development and implementation (ex-ante and ex-post analyses), and will become familiar with existing methodologies and indicators used in monitoring and evaluation processes.
5. Support for SMEs to Invest into Energy Efficiency	The block provides instructions on support for SMEs to invest into Energy Efficiency via help desks, workshops, bilateral coaching, as well as examples of concrete case studies.	The trainee will become familiar with the main barriers that hinder SMEs from investing into EE measures, and will be introduced with different non-financial instruments (e.g. technical assistance and voluntary agreements).



6 Training process

Training activities of the FIRECE project consist of the following elements:

- Train the trainers workshop (D.T1.2.2);
- On-line training course (D.T1.2.3);
- Study visits (D.T1.3.2);
- Local workshops (D.T1.3.3).

The training activities target public coordinators and operators dealing with Energy Plans with the aim to increase their ability on plans management, development and implementation of (innovative) financial instruments, and quality assessment of public investments.

The training activities involve responsible persons from national and regional authorities, energy and sectoral agencies, and financial institutions as well as intermediaries that are linked to the implementation of energy plans and financial mechanisms.

While the train the trainers workshop, study visits and local workshop allow for direct interaction between the project partners and relevant stakeholders, for the on-line training course, the training process needs to be determined in order to define how the user participating in the training receives relevant competence.

As the competences of the user are described through the CV profile, also the current knowledge and the knowledge acquired in the training course will be assessed based on the CV profile.

Such a training process can be described in three steps:

1. The user fills in the Initial Assessment Questionnaire, in which his present knowledge and experience in specific topics is assessed. The topics are linked to the training modules (and relevant CV profile description). The user is also asked how important the particular topics are for his work.
2. Based on the Initial Assessment Questionnaire, the system designs the personalized training course for the user by recommending the modules he/she should study.

It means that for less experienced users, the full training course (i.e. 40 hours) may be recommended, while experienced users may get recommendation to undergo only through a few specific modules.



3. After the user finishes his/her training, they fill in the Final Assessment Questionnaire, which assesses their current knowledge. By comparing the Initial and the Final questionnaires, the progress in knowledge of each user can be assessed.

Figure 7: Training process

