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SEPlaM-CC

SEPlaM-CC – Raising capacity of cross-border public institutions in sustainable energy planning and management and climate change mitigation

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Guidelines for local and regional authorities regarding energy and climate planning and management

Project partners

MEĐIMURSKA ENERGETSKA AGENCIJA d.o.o.

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Summary

Today the climate change is one of the biggest challenges on global level. Events related to extreme weather and climate conditions, which cause various disasters in many regions will become more frequent and stronger. The impact of climate change on the ecosystem, economic sector and human well-being and health is visible across Europe. Policymakers should be concerned about the risk of potential disasters, because the number of natural disasters has increased in recent years. There are evidences that climate change has increased the frequency and severity of certain extreme weather and climate events, such as droughts, heat waves and heavy rainfall, and it is predicted that such trends will continue to grow unless climate change mitigation is affected. To solve these complex issues, local and regional governments need to take action and use the most effective planning tools and techniques for overcoming the specific challenges they face. Taking various measures could help reduce reliance on non-renewable energy sources and could also help local communities to better meet their energy needs, improve the environmental protection and generate other benefits such as improving health, quality of life and increased investments in local economy.

In practice, local and regional governments often lack capacity since they do not have a structured decision-making process which could allow them to drive the implementation of energy efficiency and climate change adaptation measures. In order to overcome all existing challenges and to use all available funding sources, additional capacity building is needed as well as networking for the purpose of knowledge sharing and experience exchange for the purpose of developing relevant energy and climate plans.

The main goal of this document is to provide guidance to local and regional governments on how to develop energy and climate plans, since sustainable energy planning and climate change mitigation are the two biggest problems now-days. The final success in overcoming the challenges arising from these problems lies in the adoption of appropriate strategic and planning documents at local, regional and national level and in successful implementation of measures defined in those documents. The whole process of energy and climate planning cannot be carried out in a short time. Both, Croatian and Hungarian governments consider energy, climate and climate change as critical factors in development, for which comprehensive plans need to be developed and adopted. Since the main goal of SEPlaM-CC project is raising capacity of cross-border public institutions in sustainable energy planning and management and climate change mitigation by exchange of experience, knowledge and best practice examples the idea of this document is to develop guidelines which will assist local and regional governments in the development of local and regional energy and climate plans in Croatia and Hungary.

These guidelines are quality tool which will help policy makers ensure that plans are comprehensive, strategic and practical and that they reflect the unique energy needs and economic opportunities in relevant administrative area.

1. Introduction

Climate change mitigation and adaptation are considered to be the main pillars of energy and climate policy implementation. To tackle climate change adaptation process in the Republic of Croatia, Climate Change Adaptation Strategy in the Republic of Croatia for the period to 2040 with a view to 2070 was adopted in April 2020. This was the first document in Croatia which prompted climate change mitigation and adaptation activities on national level. In Hungary, the issue of combating climate change came to the political scene quite early, in 2008 when the first Strategy for Adaptation to Climate Change was adopted. However, development of economic environment and accelerated natural changes in recent years have prompted its revision in 2013 when the second Climate Change adaptation Strategy for the period from 2014 to 2025 was adopted and again five years later when Revision of the second Climate Change Adaptation Strategy for the period from 2018 to 2030 was approved. The development of Climate Change Adaptation Strategy is a fundamental precondition and appropriate instrument for the successful implementation of the vulnerability assessment process, the implementation of climate change adaptation measures and in connection with this, increased resilience of individual sectors such as economy and society to climate change. The vulnerability on the effects of climate change in Croatia and Hungary is high, especially in the sectors such as agriculture, forestry, fisheries, energy and tourism, because the success of all these sectors largely depends on climate factors.

The energy sector is the largest source of greenhouse gas emissions, and climate change is considered to be one of the greatest threats to modern humanity. Thanks to the Paris Agreement, global efforts are aimed at reducing greenhouse gas emissions, which aim is to keep the average temperature on Earth below 2 ° C, preferably below 1.5 ° C. The European Union wants to maintain its leading role in the global fight against climate change. To make this possible, fundamental changes within the energy sector are needed, which must be rapid, well-designed and geared towards a cleaner and sustainable, low-carbon future. To ensure that the EU meets its clean energy and climate goals, Member States have prepared and adopted national energy and climate plans whereas four goals have been set for all EU countries, by the 2030:

- reduction of greenhouse gas emissions;
- greater electricity interconnection;
- minimum share of energy from renewable sources = 32%;
- minimal improvement in energy efficiency = 32.5%.

Furthermore, the European Green Deal focuses on three key principles of the transition to clean energy, which will help reduce greenhouse gas emissions and improve the lives of citizens:

1. secure and affordable price energy supply in the EU;
2. the development of a fully integrated, interconnected and digitized European energy market;

3. giving priority to energy efficiency in building sector and developing an energy sector based mainly on renewable energy sources.

In addition, the European Commission has made a few recommendations on how to reduce influences of climate change, energy, transport which will result in reduction of greenhouse gas emissions at least by 55% to the 2030, compared to 1990 levels. For the purposes of implementing appropriate climate and energy policies, certain measures are defined with the aim of reducing greenhouse gas emissions, increasing the use of renewable energy sources and improving energy efficiency. These measures have been implemented for years, and we can divide them into:

- **regulatory measures** – measures envisaging the adoption of legal frameworks to ensure significant reduction of future GHG emissions;
- **financial measures** – measures providing co-financing mechanisms, tax reliefs or more favorable loans for the implementation of projects that would not be profitable without such support;
- **technical measures** – technical assistance measures for the preparation of technical project documentation;
- **information and educational measures** – measures which improve user behavior by increased level of knowledge and information;
- **research measures** – measures that provide insight in the situation and provide preconditions for adaptation of other types of measures.

Energy and climate planning processes are considered to be different in several ways; according to the structure of the planning, the team members, content of the plan, details of the plan, analysis of used data, etc. Each plan is different and unique, and it is always based on the following factors: energy resources, stakeholders, scope and steps that must be taken and applied in energy and climate planning in order for the energy planning process to be comprehensive and complete. Key issues relevant for the cross-border area are the integration of energy markets, large infrastructure projects near the state border and cross-border infrastructural projects, international scientific cooperation related to the dimensions of the energy union, and other activities that may affect the behavior of other EU Member States.

This document provides guidelines on the main aspects that need to be analyzed and taken into account while preparing energy and climate planning process. Each plan should be specific for covered planning area. This document will present a series of recommended actions that energy and climate plans should include. The guidelines contain 10 steps that are important in comprehensive energy and climate planning process. Local and regional governments have the opportunity to develop energy and climate plans, which will use new technologies and trends, but also overcome existing challenges. Good planning process helps to mitigate the effects of climate change. A comprehensive energy and climate plans should identify strategies to promote energy, economic and environmental benefits, as well as other factors such as cost savings, job creation, economic development, environmental protection, energy security, resiliency and health.

2. Energy and climate planning and management process

Energy and climate planning is a complex process that involves a cooperation within the huge number of stakeholders at different levels and management functions. In order for the process to be successful, it is necessary to develop quality energy and climate plans. The national legal frameworks of the EU Member States determine that local and regional governments adopt certain planning documents in which they define their energy and climate policy. It is extremely important for local and regional government to be aware of the importance of energy and climate planning in order to achieve the set goals. It is also good for local and regional governments to take part in initiatives like *Covenant of Mayors for Climate and Energy,* in order to further contribute to environmental protection, to increase the quality of life and the standard of living of citizens in a certain area. Quality energy and climate plans can help to decision makers to:

- identify and test strategies to accelerate energy-related economic development and ensure that policies and programs reflect real needs and opportunities;
- ensure that new and existing policies are connected to network modernization, emergency preparedness, energy efficiency, etc.;
- build consensus on energy policy and investment decisions;
- build a long-term energy map based on widely accepted data and analysis;
- manage the risks associated with energy markets to ensure the reliability and integrity of the system;
- assign responsibilities for specific energy actions and provide resources for the success of the implementation of the plan, and
- increase transparency and accountability within the institution.

The following document outlines the steps needed to establish a quality energy and climate planning process at the local/regional level.

Figure 2.1 shows the energy and climate planning process which is elaborated through ten main steps.

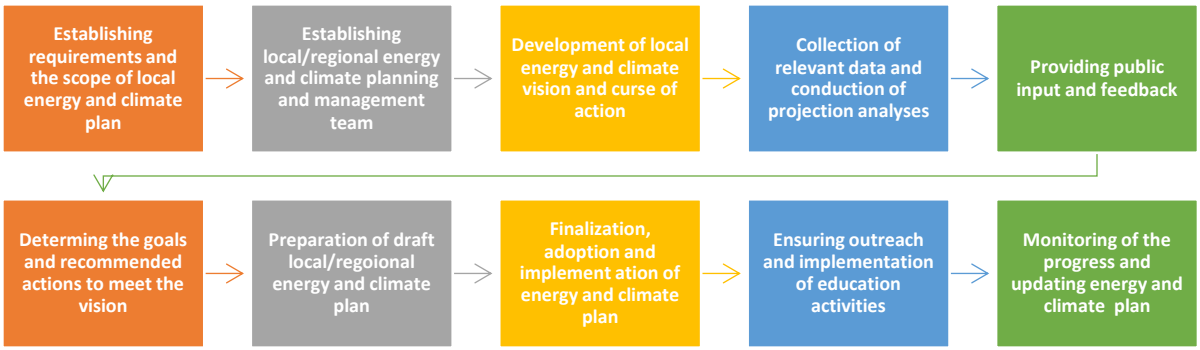

Figure 2.1 Steps in the energy and climate planning process

The whole process of energy and climate planning cannot be carried out in a short time. One of the biggest requirements for establishing a quality energy and climate planning process is the renewal of existing management models, strong political commitment and extensive investment in research of applied technologies and energy infrastructures. This approach implies a series of changes in legislative frameworks, but also a series of changes in the habits of the community and its lifestyles. For the creation and development of an efficient energy and climate planning process, it is crucial to apply comprehensive methodological approach and involve all relevant stakeholders. By involving different stakeholders, different interests will be shown which will lead to the creation of a successful energy and climate plan.

It is important to involve different stakeholders, from different fields of action, in order to achieve their joint interaction and ensure the development of a quality energy and climate plan, which will help establish sustainable local and regional development process and climate change mitigation.

It is obligated for local and regional governments to participate in the development of the draft version of an integrated national energy and climate plan, as well as to participate in the development of all key strategic documents that serve as a basis for drafting energy and climate plans.

Before development of the energy and climate plan, it is necessary to determine the budget and timeframe for the development process and appoint a team that will make the energy and climate plan. The planning team defines the content of the plan, deadlines for the development and implementation of plan and reports on progress in the implementation of plans.

Energy and climate planning must be based on the development of detailed databases and complex methodological processes, which are the basis for successful energy and climate planning. It is necessary to clearly define goals, priorities and strategies and to define measures for assessing the success of achieving the set goals.

2.1. Establishing requirements and the scope of local energy and climate plan

A first key step for energy and climate planning process refers to definition of the requirements and scope of the regional or local energy and climate plan. The main goal in this step is to give the plan the appropriate influence and authority, motivate county, city and municipal leaders to encourage the development and implementation of energy and climate planning process, because it usually is initiated through people in the highest positions. Each type of process, ether set at local or regional level, is established by decision of the county, municipal and city councils and refers to a one-time planning event or cyclical process that requires development (3 months to 1 year), review, audit and evaluation of the plan in regular intervals (5, 10 or 20 years). Making a decision on the development of an energy and climate plan, gives the plan a certain impact, i.e., weight and at the same time increases the likelihood of participation in the

development and improves the acceptance by key stakeholders and the public, but also ensures consistency in the long-term planning process.

Local and regional governments often face with lack of capacity, and therefore do not have a structured decision-making process to help initiate implementation of energy efficiency and climate adaptation measures. On the other hand, local and regional governments are also facing with a lack of financial resources for implementation of energy efficiency measures and energy and climate planning process, so the issue of climate change is not comprehensive. Energy and climate are challenging and they are broad topics, affected by a large number of sectors.

It is initially important to identify existing challenges and obstacles that need to be overcome, in order to establish an effective process of planning and managing energy and climate change. This is very important for development and later for implementation of energy and climate plans

2.2. Establishing local/regional energy and climate planning and management team

Once satisfying level of awareness of the importance of developing an energy and climate plan at local/regional level has been accomplished, the obstacles and challenges that may hinder the development and successful implementation of the plan have been identified, it is necessary to establish an appropriate team of experts who will participate in development of the plan. It is necessary also to include various stakeholders from the energy and climate sector who will provide guidance to the established team in the whole planning process.

Figure 2.2 Steps in establishing a local/regional team in charge of energy and climate planning

In this step is necessary to clearly define who is responsible for development and managing the development of energy and climate plans. When forming a team, it is necessary to take into account the involvement of experts who have relevant knowledge in the field of energy and climate planning and who will collect all the information and data which are needed for the further development of the energy and climate plan. The established team should upgrade their knowledge and experience and cooperate with experts from other fields (energy agencies, ministries and other competent bodies). Local and regional governments should appoint within their institutions the persons who will be involved in energy and climate planning so it is important to have in mind that each member should have certain competencies, which will enable the development of a detailed energy and climate plan. Planning team should include employees from local and regional government representatives from various institutions – energy agencies, the public, experts in the field of energy, etc.

The role of each team member is different, and it should be well defined with clearly defined responsibilities. The planning team will need to set and define a clear timeline and budget for the development of the plan which includes good management of available resources, consider costs in advance and promote resource efficiency. At the same time, those teams should also be in charge of informing the public and organizing targeted info-campaigns related to development of energy and climate plans.

As the European Union has established ambitious policies and initiatives to promote solutions to reduce the negative impacts of climate change, local and regional governments need to take responsibility for energy and climate planning that is in line with strategic European climate and energy goals. In this process, they usually appointed regional energy agencies as relevant experts for the development of energy and climate plans.

Unfortunately, in the whole territory of Croatia and Hungary, regional energy agencies or other similar institutions/organizations which provide complete technical support to local and regional governments in developing energy and climate plans do not exist in the extent that they should. On the other hand, additional capacity building of existing regional energy agencies and other institutions in the field of climate change and their transformation into energy and climate agencies is needed, for this reason, it is proposed to establish local energy and climate teams, which will implement energy projects and projects for climate mitigation.

2.3. Develop the local/regional energy and climate vision and course of action

The main goal of the third step in the energy and climate planning process is to define an accurate and clear vision that reflects the overall purpose of the plan, the main goals of the plan and especially the energy and climate goals. Through the process of creating visions, emphasis should be placed on certain thematic priorities.

Figure 2.3 shows some examples of variations of vision statements focused on energy and climate projects.

Figure 2.3 Variations of vision statements in the energy and climate sector

Energy and climate plans should be designed to maximize (as much as possible) reliability, environmental protection, energy conservation and energy efficiency while minimizing energy costs. Climate change and energy planning are two serious environmental, security and socio-political challenges. Their impact is visible at

national, regional and even local levels across Europe and beyond. Solving these challenges requires urgent action with the necessary involvement of local and regional authorities.

In practice, local and regional governments implement national and European regulations and directives, especially those related to energy efficiency, the using of RES, as well as dealing with increasingly important issues related to climate change. Local and regional governments should take greater responsibility for energy and climate planning, which would be in line with European climate and energy goals. The most effective actions in energy and climate planning and climate change mitigation are those that combine different types of approaches – a holistic, integrated and long-term approach, addressing climate change mitigation, based on the involvement of citizens, different stakeholders and local/regional authorities.

Local authorities have a key role in climate change mitigation, by creating a community vision, developing relevant strategies, implementing effective policies and various activities. It is important to define the local energy and climate vision and determine the direction of its action. Next step includes analyzing the energy system of the observed area. In the future, national energy and climate plans should provide an opportunity for planning future energy events.

Energy and climate planning requires the exchange and analysis of complex data and methodological procedures, which should be prepared and published in accordance with EU regulations and other similar regulations and standards.

The time for development and finalization of an energy and climate plan can vary from a few months to a year and it depends on the scope of the plan, but also on the defined time frame for the implementation of the plan. It is certainly necessary to emphasize that some actions from the plan will not be finalized in a certain timeframe, so for that reason it is necessary to comprehensively consider the plan and be ready for the challenges that may be encountered during the implementation process.

2.4. Collection of relevant data and conduction of projection analyses

Next step is to establish the baselines and assess current and future energy needs in the local/regional area with the help of collected relevant data and conducted analyses. Data collection as well as their analysis allows to consider certain options in accordance with the actual parameters and set indicators to monitor the future progress.

Figure 2.4 Steps in collecting and analyzing energy and climate data

Data collection and analysis of local or regional energy and climate related data are necessary to determine total energy consumption and energy production and to understand current energy needs. These data can be obtained from national statistical

institutes, energy institutes, universities, electricity or natural gas distributors, energy agencies and other relevant institutions at the international, national or regional level. There are legal norms related to energy usage and monitoring of consumption and energy efficiency, which are approved from time to time at local, national and international level and which are monitored by relevant institutions at national and regional level. Legal requirements for collection are most often defined within laws and regulations. To gather this kind of information, an energy agency can be contracted, which in most cases has more information or has easier access to them. In this way, exploitation of resources can be reduced. The planning team should also consider existing energy plans or other relevant documents, which can help highlight shortcomings, strengthen cross-sectoral cooperation, etc. It is also necessary to collect and analyze data on energy usage statistics by sectors, users, energy prices, imports and exports. Finally, it is important to consider data related to income, expenditure, employment rate and (energy) poverty. After data collection if finalized, it is necessary to conduct analyses of the same in order to identify opportunities for improvements in the energy sector. It is certainly advisable to make a SWOT analysis, in order to see where local/regional governments currently use insufficient energy resources. The data collection process is likely to be lengthy and extensive, depending on the desired final content of the energy and climate plans.

After data collection an assessment of future energy needs, based on population projections, supply or demand, energy prices, and economic growth should be implemented. The planning team is obliged to ensure the implementation of the plan based on real facts through collection and analysis of energy and climate data and assess future energy needs. Only the quantification of future energy needs in the area of local and regional governments can be based on the projected consumption of electricity and patterns in the production and consumption of transport fuels categorized by source and/or final consumption sector. Factors which affect these projections include energy availability and cost, environmental impact and climate models. The development of projections based on different assumptions and criteria can be considered in order to identify the future course of action for the development and implementation of the energy and climate plan.

At this stage it is important to know that some of the necessary data will not be available, but by involving relevant institutions that collect such data in the development of the energy and climate plan, they can be obtained much easier.

2.5. Providing public input and feedback

The next important step is inviting the public, business sector, industry and other stakeholders to participate in energy and climate planning process. It is important to gather important information from various stakeholders which would help creating energy and climate plans. In energy and climate planning process, communication with the public is useful and it should include dissemination and collection of feedback.

Communication with the public can raise the profile of the plan, contribute to the content and scope of the energy or climate plan, facilitate public support and improve transparency. The public can be involved in energy and climate plan before development of goals and activities, or at the very end, when public feedback is requested for the purpose of revising energy and climate plan. It is recommended to use online collection of public information, but it is also possible to collect information form the public through public forums, which depends on the ability and capacity of citizens to engage in such activities (depending on the availability of resources and information literacy, depending on location and general development of the area).

On organization of this forums, public can be informed through local media, websites, radio or news. It is advisable to conduct an information campaign, which can help encourage public participation, to raise their awareness and encourage understanding the needs for and benefits of energy and climate planning. Proposals which the planning team will include in the energy and climate plan need to be collected from different stakeholders. While holding public debates, it is necessary to be prepared for possible differences of opinion among individual stakeholders, but this should not discourage anyone, because critical view can ultimately help eliminate shortcomings in certain areas covered by energy and climate planning process. It is useful to allow stakeholders to make alternative proposals for what they consider to be a failure.

The comments that stakeholders will give on the proposed plan can also help public authorities to revise the plans and change them. Once the planning team has responded to stakeholder's suggestions, the identified alternative suggestions can be incorporated into the plan. Involvement of stakeholder is key part of energy and climate planning process. Unsatisfactory process of defining stakeholder's involvement can prolong the process of developing an energy and climate plan and cause disagreements between different stakeholder's groups, which should certainly be avoided. When defining an effective and constructive stakeholder engagement process, the following actions need to be taken:

- **Establishing proper parameters** – define the scope of the process as well as key parts of the planning process that require stakeholder input, time needed to collect data to stakeholders understand the process and effectively present their views;
- **Encouraging coalitions and alternative proposals** – making coalitions of experts with different fields of energy expertise can help focus the discussion, but also to gather different points of view and identify shortcomings in certain solutions;
- **Responding to constructive opinions and comments** – stakeholders in most cases contribute to the development of the plan through comments that can be useful to focus the plans on specific objectives;
- **Comparison of alternative policy solutions** – after responding to stakeholder proposals, different policy alternatives can be compared, while final plans should be based on a comparison of different proposed alternatives.

2.6. Determine the goals and recommended actions to meet the vision

Within the next step, it is important to determine the goals and activities that need to be undertaken in order to achieve the set vision in the process of energy and climate planning at the local/regional level. The planning team will set clear goals and actions, which should be taken by developing energy and climate plan. The defined objectives should support the general vision of the local/regional governments and may be mandatory or voluntary.

In many cases it may be useful for a planning team to construct goals by applying SMART goal principle by which the goals should be:

- specific (simple, reasonable),
- measurable (meaningful, motivating),
- achievable (attainable),
- realistic (reasonable, results-based),
- time limited (timely).

Goals are an essential part of the energy and climate plan, as they frame what the community wants to achieve.

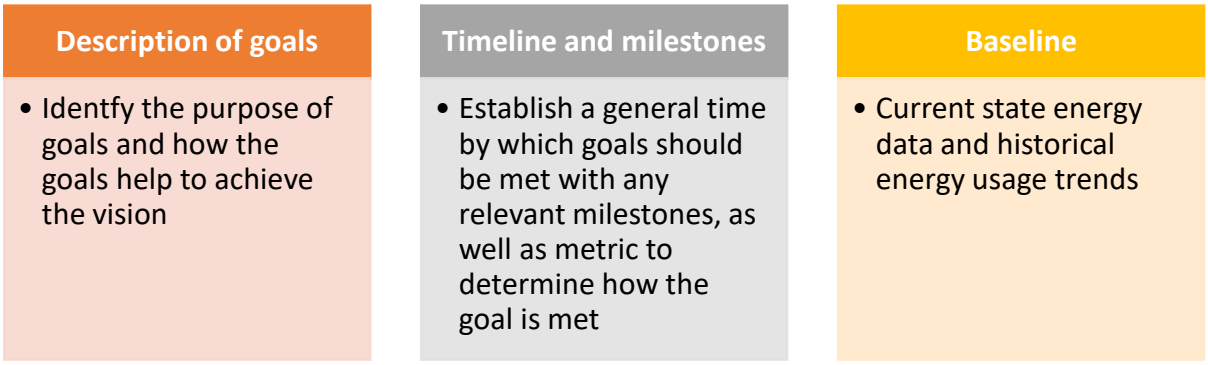

Figure 2.5 Recommendations for defining goals within energy and climate plans

Once the planning team defines the goals within energy and climate plan, policy and programmatic recommendations should be established to meet those goals. Each recommended activity should outline particular funding mechanisms and measurement criteria based on existing public data to ensure the action is financially supported and tracked.

The planning team should also consider barriers that may prevent successful implementation of the recommended actions. The planning team may focus on introduction of new technologies, consumer behaviors, possible environmental hazards, pricing issues and health and economic benefit estimates. Stakeholder input is essential for energy and climate planning. By setting the priorities, it is important to evaluate each measure and invite public to provide feedback.

2.7. Preparation of draft local/regional energy and climate plan

Within this step, it is necessary to ensure a clear overview of the planning process and the required implementation activities. The content of energy plan will be unique for each region forecasted energy needs and constraints, as well as state-specific political, economic and social drivers. In this step, it is important to develop a conceptual framework. A precondition for developing a conceptual framework is the collection of all data needed for the planning, implementation, evaluation and reporting process. The plan should be complete, consistent, and should list the priority actions and stakeholders that will implement the energy and climate plan.

Energy and climate plan should at least include the following content:

1. **Summary** – represents the importance of the energy and climate plan. It should describe current area covered by the energy and climate plan
2. **Scope and purpose** – provides an introduction to the scope and overall objectives of the plan
3. **Vision** – detailed description of the vision with clearly presented results that will be developed after the adoption and implementation of the plan
4. **Current energy programs** – presents the current energy profile of the area for which the energy and climate plan is prepared. It includes data on energy production and consumption, prices, revenues and expenditures
5. **Future projections and needs** – this chapter defines recommended actions that could affect the planed projections
6. **Goals and recommended actions** – the chapter defines a complete listing of goals and recommended actions that are being offered in the plan, their purpose, type of energy and end-use. The recommended actions should follow the SMART principle
7. **Implementation and timeline** – establishes strategy for the goals and recommended actions and their timeframes
8. **Financing mechanisms** – determines strategies for the goals and recommended actions to ensure that the plan is financially sustainable
9. **Measurement and evaluation strategies** – integrates the strategies used to measure results
10. **Challenges and solutions** – identify specific barriers to completing the goals (technological changes, possible environmental hazards, challenges, demand, prices)
11. **Conclusion** – provides an overview of important parts of the energy plan
12. **Glossary** – list of terms and abbreviations
13. **Acknowledgements** – to the stakeholders who have provide a key contribution
14. **Annexes** – information on the used data, documentation used in development of the plan

15. **References and resources** – list of references used in the development of the plan.

2.8. Finalization, adoption and implementation of the plan

This step focuses on the finalization and adoption of energy and climate plan. As part of this step, it is necessary to ensure that plan meets the goals set in the vision and to establish the implementation of the plan in order to achieve goals set in the plan and to meet energy needs at local/regional level.

The planning team who worked on development of energy and climate plan should present it to the appropriate authority for approval. This step is needed to gain approval from public authority, regional or local to accept the plan and initiate its implementation. Minor changes in the plan are possible in accordance with the requirements resulted from public debates. Once approved, the energy and climate plans should be made publicly accessible and local/regional governments may begin to implement it.

Energy agencies can give support to local and regional governments in implementing the plan and achieve defined energy and climate goals.

2.9. Ensuring outreach and implementation of education activities

The main goal of this step is to provide information to the public on establishment of an effective energy and climate planning process at local or regional level and on development of energy and climate plan.

Once energy and climate plan is approved, it should be made available to local and regional governments, key stakeholders, agencies, enterprises and industry working in the area covered by energy and climate plan, media and to the general public.

It is very important that all information from the plan reach the target audience. Another option for building commitment and support is to organize local events in order to present the plan and its recommended actions. Such events help build interest and involvement of citizens in the implementation of various plans in order for them to provide own contribution to the implementation of plans.

2.10. Monitoring of progress and updating energy and climate plan

Within this step it is necessary to assess the progress of the implementation of the plan and the achievement of the goals defined in the plan, which will consequently affect additional changes and revisions of the plan. This can be successfully implemented with the development of a relevant implementation strategy.

After the publication and distribution of the energy and climate plan, it is necessary to continue with the implementation, evaluation, and monitoring of progress in the

implementation of the developed plan. The planning team should develop a unique method for monitoring and supervision of implementation process and its progress in order to be sure that the plan will be implemented as planned. Each goal and recommended action defined in the plan should include verifiable indicators to ensure that progress can be clearly measured. As part of this step, several activities can be identified:

- **Measuring progress and implementation** – progress can be measured in a number of indicators – number of workspaces created and retained, increasement of revenues from energy-related activities, energy savings, reduced greenhouse gas emissions, etc**.;**
- **Process for collecting data** – the process by which data are measured, collected, and summarized and used in order to produce various reports;
- **Reporting protocol** – the progress should be reported consistently using a standard format and periodic reporting cycle. Continuous public reporting process can help to build accountability and transparency. Progress can be displayed through web pages, publication in local/regional press, etc.

3. Conclusions and future recommendations

Comprehensive energy and climate planning process is a key tool for advancing energy-related economic development, security and environmental protection. Climate change mitigation implies undertaking a certain set of activities with the aim of reducing the vulnerability of natural and social systems to climate change and increasing their ability to recover from its negative effects.

The cost of investing in climate change adaptation will reduce the cost of repairing possible damages in the future. The recommendations that can be found in the energy and climate plans are based on the real data and they reflect the contribution to the development of various policies at local and regional level. Communication with the public is crucial for the development and implementation of an effective and quality local/regional energy and climate plan and it enables the achievement of long-term goals. In this regard it is crucial to further engage the key stakeholders through various participation mechanisms such as workshops, round tables, citizens' forums, etc.

In order to achieve sustainable energy and climate change mitigation planning, it is necessary to develop quality energy and climate plans at the local, regional or national levels and successfully implement the measures defined in these plans. It is recommended to ensure that employees in local and regional governments go through certain cycles of training in order to further increase their knowledge in the field of energy and climate planning and the development of relevant energy and climate plans.

SEPlaM-CC project is implemented in the cross-border area Croatia - Hungary, where local and regional governments face various challenges in preparing and implementing energy and climate plans, so the main goal of this document is to provide information to local and regional governments which can be helpful during development of energy and climate plans. These guidelines identify ten key steps which are necessary to establish an effective energy and climate planning process at local and regional level.

Through energy and climate planning, local and regional governments can direct their activities on certain area to take an active role in the process of climate change mitigation adaptation. In addition, it is recommended to continuously monitor the implementation of the plan as well as to research relevant funding mechanisms for implementation of certain energy and climate related projects.

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