

VIOLET PROJECT

South-East Regional Development Agency of Romania (SE RDA)



ACTION PLAN

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Introduction

The EU building stock has a unique mix of historical and modern architecture. The cultural value we attribute to our traditional and historic buildings denotes our identity as communities and individuals, playing an important role in urban and rural environments. However, in a perspective of climate and environmental policy, such buildings demand excess energy if compared to modern building structures.

Despite this, EU legislation, such as the Energy Performance of Buildings Directive (EPBD) (2018/844/EU)¹ and the Energy Efficiency Directive (2012/27/EU), provide standardised methodologies and do not consider the application of modern energy efficiency standards to traditional and heritage buildings. In this context, much of the Member States regulations are based on the European Standard 'EN 16883:2017 Conservation of Cultural Heritage Guidelines'², even though this is only a suite of non-statutory guidelines.

Neglecting the above might run the risk of enhancing negative perceptions around traditional and heritage buildings, as poorly performing or noncompliant. Although, analysis shows that the original construction of such buildings may outperform the proposed energy efficiency interventions. For instance, the building's fabric might have comparative advantage in terms of embodied energy reduction and energy savings during construction/refurbishment stages. The implementation of public policies in this field requires a solid understanding about the existing traditional and heritage building stock, especially about its special features.

VIOLET project aims to preserve traditional and heritage buildings by integrating energy efficiency and cultural heritage into policy planning, management and monitoring, all thanks to interregional cooperation. Through cooperation among five regions (South-East Region/Romania, Aquitaine/France, Zeeland/Netherlands, Andalucia/Spain, Cyprus) at different stages of development and one expert advisory partner from Stuttgart/Germany, VIOLET fosters a multisector, integrated planning approach bringing together organisations in charge of energy efficiency and those in charge of cultural heritage at regional and EU level.

Thanks to a set of interlinked activities for interregional exchange, communication and stakeholder involvement, VIOLET partners developed five Action Plans to improve ERDF and local policy instruments on energy efficiency in traditional buildings.

The Action Plans, stemming from the work carried out throughout the VIOLET project, aim to raise awareness on this important subject matter. The Action Plans have the ambition to change the current policy scenarios across the various regions by giving this building stock the adequate relevance in EU and national legislation. Traditional and heritage buildings must be included in the current legislation/regulation in a more elaborated and targeted manner than currently provided or

¹ To be transposed into national legislation by early 2020.

² Drafted by the technical body for the Conservation of Cultural Heritage within the European Committee for Standardization (CEN)

exists, also through the adoption of mandatory provisions. Yes, this is challenging, requiring flexible approaches, but, on the other hand, their compliance with too extensive and strict criteria could cause a deteriorating service to end users or even the inactivity of the building, causing the loss of an invaluable cultural and architectural heritage.

Executive summary

Starting from the project objective to improve regional public policies to enhance energy efficiency in traditional buildings, by addressing both low carbon and cultural preservation actions, the South-East Regional Development Agency of Romania developed the Action Plan that envisages to strengthen the policy instrument 2014-2020 Regional Operational Programme, one of the eight operational programmes implemented by Romania during the current programming period. In particular, the Action Plan focuses on the Priority Axis 5 „Conservation, protection, promotion and development of natural and cultural patrimony” that stimulates the rehabilitation, protection, conservation and sustainable valorisation of the cultural patrimony and identity, having in view the local development benefitting of improved built heritage and their increased number of visitors.

The general objective of the Action Plan is to extend and demonstrate the impact of Priority Axis 5.1. within the Regional Operational Programme 2014 – 2020, in terms of energy efficiency by improving the monitoring methodology for the patrimony projects that are currently under implementation.

The idea of developing the Action Plan came from ROP addressed challenges: on the one hand, unsustainable energy consumption and the high saving potential of the public infrastructure, including public buildings and the housing sector, and on the other hand, the need for enhancing the valorisation of valuable cultural patrimony, by rehabilitation and promotion. Both needs have been addressed under distinct priority axis, with no interference, as their objectives are different.

Therefore, the Action Plan focuses on both ROP needs by demonstrating that most of the projects dedicated to rehabilitating and re-valorising valuable built cultural patrimony financed under Priority Axis 5.1 include an important energy efficiency component that may increase ROP impact in terms of reducing CO2 emissions in Romania.

Nevertheless, the Action Plan was inspired by the good practices shared during the interregional cooperation events organised within VIOLET project which demonstrated the important role of methodologies/platforms/reports to measure energy efficiency indicators in cultural heritage buildings, the collaboration between the parties involved in this field and the raising awareness campaigns targeting owners and specialists in cultural heritage patrimony.

The Action Plan implementation envisages two main phases:

- Phase 1 – Development of the improved monitoring methodology for the projects under implementation within Priority Axis 5.1;
- Phase 2 - Application of the improved monitoring methodology for the projects under implementation within Priority Axis 5.1.

The Action Plan is accompanied by supportive actions, such as: collaboration between the County Directorate on Culture for advisory in drafting the monitoring methodology as well as communication and dissemination actions carried out in terms of raising awareness on the improved monitoring methodology and its estimated impact within 2014-2020 Regional Operational Programme.

I. General Information

Project: VIOLET - preserve traditional buildings through Energy reduction

Name of the organisation: South-East Regional Development Agency (SE RDA) – Project Lead Partner

Country: Romania

NUTS2 region: South-East Region

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II. Policy Context

The Action Plan aims to impact:

- **Investment for Growth and Jobs programme**
- European Territorial Cooperation programme
- Other regional development policy instrument

Name of the policy instrument addressed: **Regional Operational Programme 2014 – 2020, Priority Axis 5.1: „Conservation, protection, promotion and development of natural and cultural patrimony”**

The Regional Operational Programme (ROP) 2014 – 2020 is one of the eight operational programmes implemented by Romania during the current programming period. The programme is financed by the European Regional Development Fund (ERDF) and it aims at strengthening the coherence between investment and the structural reforms priorities and focuses on the need to promote growth and employment in order to achieve Europe 2020 strategy objectives.

The Programme total budget is of 8,384,288,100.00 €, out of which the total EU contribution is of 6,860,000,000.00 €.

ROP 2014-2020 is managed by the Ministry of Public Works, Development and Administration (Managing Authority) and implemented with the support of eight Regional Development Agencies. Therefore, the South-East Regional Development Agency represents the Intermediate Body (IB) for 2014-2020 ROP in the South-East Region of Romania, having delegated tasks from the Managing Authority (MA) consisting in: launching and promotion of the calls for proposals, projects evaluation, carrying-out the projects contracting and monitoring phases.

The Programme has been adopted in 2015 and subsequently improved to facilitate the potential beneficiaries access and following the implementation progress of various national/regional and sector strategies. The programme addresses the major development challenges for Romania: regional competitiveness, sustainable urban development, the low-carbon economy, and economic and social infrastructure at regional and local level.

The development needs envisaged by ROP have been identified and prioritized based on the Romanian socio-economic stage of development, and are in line with the main national and European strategies.

One of the main needs addressed is represented by the unsustainable energy consumption and the high saving potential of the public infrastructure, including public buildings and the housing sector. Moreover, ROP acknowledges and responds to the need for enhancing the valorisation of valuable cultural patrimony, by rehabilitation and promotion. Both needs have been addressed under distinct priority axis, with no interference, as their objectives are different.

The Action Plan will focus on both ROP needs by demonstrating that most of the projects dedicated to rehabilitating and re-valorising valuable built cultural patrimony include an important energy efficiency component that may increase ROP impact in terms of reducing CO2 emissions in Romania.

Priority Axis 5.1. Conservation, protection, promotion and development of natural and cultural patrimony

The Priority Axis stimulates the rehabilitation, protection, conservation and sustainable valorisation of the cultural patrimony and identity, having in view the local development benefitting of improved built heritage and their increased number of visitors. The projects target solely protected historic monuments, with focus on UNESCO monuments, and national monuments located in urban areas as well as local monuments located in rural areas.

At the level of South-East Region, the total allocation for ROP Priority Axis 5.1 was of 49,821,028 Euro, of which 35,559,664 Euro represented ERDF funds. Three calls for proposals were launched during 2016-2018, two calls for new proposals and one specific call for projects not finalized under national programmes, but eligible for funding under ROP. 19 projects are currently being implemented, having a total value of app. 50.1 Mil. Euro which represents 121.46% of the total allocation at regional level. App. 12.65 Mil. Euro have been authorized for reimbursement up to date.

A very important aspect for the proposed action plan is that the investment proposals allow for a comprehensive approach of the building and may include:

- rehabilitation, reinforcement, protection and conservation of historic monuments;
- interior systems – supply installations, equipment and machinery for ventilation, fire proofing;
- other measures for valorising and promoting the building and its activity.

Although this priority axis doesn't require any commitment of the beneficiary towards energy efficiency measures, such as basic actions of performing energy audits pre- and post-investment, or rewarding additionally the projects including such measures, it neither excludes or forbidden energy efficiency measures that might be proposed under the rehabilitation technical solution.

Taking into consideration that the protected buildings proposed to be rehabilitated and valorised under the analysed priority axis are public buildings with energy-consuming activities – e.g. tourist and cultural-related activities, most of the projects include basic energy efficiency measures, if not more sophisticated ones, aiming at decreasing the energy bill and contributing to the reduction of building's carbon footprint.

This context translates into a good opportunity to demonstrate the feasibility of energy efficiency measures with historic monuments (historic buildings), the availability of such measures in various levels of technical and energetic intensities, while providing evidence of practical solutions and, more important, their impact on environment and building. The dissemination activities will ensure these findings will be communicated to interested parties. This approach has been inspired by VIOLET project and partners' good practices.

III. ACTION - Improvement of the Monitoring Methodology for the Patrimony Projects financed under 2014-2020 Regional Operational Programme

III. 1. The Background

For the proposed policy improvement action plan, SE RDA has been inspired by several good practices that demonstrated the importance and impact of cooperating with entities involved in the field of heritage buildings in terms of input on technical aspects, development of strategies/plans that integrate dissemination, training, communication actions.

Thanks to interregional cooperation exchange of information on partners experiences and good practices that took place during project meetings, bilateral exchanges meetings and staff exchanges, SE RDA made use of the following experiences relevant for the policy instrument improvement:

1. **Collaboration Agreement between Cultural Department and Housing and Refurbishment Department to act jointly in the historic and cultural heritage in Andalusia** – Good Practice promoted by The Public Enterprise for Social Housing and Refurbishment in Andalusia, Regional Ministry of Public Works and Housing.

Relevant aspects:

The Good Practice aims to protect and promote the Andalusian Historical Heritage as well as to foster the collaboration between public administrations with competence in heritage buildings by signing cooperation agreements that envisage interventions in historical areas, public spaces with special archaeological interest, singular projects in Historical Heritage and surroundings.

Result: 1% investment of the Housing and Refurbishment Department is managed in coordination with the Cultural Department.

Lessons learnt:

The collaboration between the institutions in charge of cultural patrimony and other institutions that may intervene on the cultural patrimony allows for a smooth, articulated and supported identification, promotion and financing of heritage-related projects, based on the Cultural Department knowledge and vision on historic and traditional buildings and sites, their cultural and social value, as well as the administrative and legislative background for interventions. Also, the Andalusian collaboration showed important synergies between the two entities actions and strategies, thus increasing the impact of any action on historical buildings/sites.

The proposed Action Plan for improving the policy instrument includes, as supportive action, the collaboration with the Territorial Directorate of Culture from Braila County (VIOLET local stakeholder) in the consultation process for drafting the monitoring methodology, taking into consideration their knowledge and high experience in terms of cultural heritage legislation and framework. Therefore, Braila Directorate of Culture will share its knowledge to improve the policy instrument and confirm the feasibility and impact of the entire effort to prove that most of heritage-related rehabilitation projects may include targeted energy-efficiency measures.

2. **"La Ciudad Amable"** - Good Practice promoted by The Public Enterprise for Social Housing and Refurbishment in Andalusia, Regional Ministry of Public Works and Housing.

Relevant aspects:

"La Ciudad Amable" is an innovative approach designed to improve the way that public administrations renovate public buildings and public spaces, also focusing the social and ecological aspects. Its objectives are to establish new forms of interventions in the city, to train civil servants and stakeholders involved in the process, to select the projects to be funded and to foster the development of integrated and multisector interventions.

It is the Regional Department of Housing and Refurbishment in Andalusia answer to support and stimulate the access to the Regional Programme for Public Spaces. "La Ciudad Amable" involves raising awareness, dissemination and training activities in relation with the interventions to be undertaken. In the first phase of the programme, good examples and practices have been identified and new policy instruments were developed in that direction, including a multidisciplinary approach, energy efficiency, social inclusion and innovation parameters.

Lessons learnt:

"La Ciudad Amable" is a scheme based on good practices and examples, used as a base for multidisciplinary training, raising interest of complex projects focused on renovating public spaces, including Historical City Centres and facilitating the preparation of renovation projects to access European funding.

Two of the "soft" integrative and encouraging interventions are of great interest for SE RDA and its policy improvement proposal, also based on a thorough research of elements that later will serve as good practice:

- Training and Capacity Building activities: free open days, conferences and training sessions organised for organisations that joined the initiative. Technicians, city council managers, teachers and professors, environment trainers were the beneficiaries of this activity, as organisations/individuals involved in initiating heritage-related projects;
- Awareness and communication activities: Web platforms, guidelines, good practice catalogue and exhibitions.

These activities are considered of great value and usefulness for ROP beneficiaries/potential beneficiaries and specialists related to all phases of a project addressing historic and traditional buildings, as they have the capacity to set up teams with a consistent and common understanding on the two-fold subject of energy efficiency and historic buildings. Awareness and communication is very important for SE RDA Action Plan, to ensure the relevant critical mass of organisations/individuals confident in the approach and solutions promoted.

3. DuMo (Sustainable Listed Monument) – Good Practice promoted by NIBE Nederland's Instituut voor Bouwbiologie en Ecologie, Middelburg, The Netherlands

Relevant aspects:

The Good Practice refers to a calculation model to map sustainability in combination with the building historic value. Listed buildings have different historic qualities and their cultural value may differ greatly, thus creating distinct premises for energy efficiency solutions. Even the same building may have parts with different historic values. When the historic value is low, there is a higher number of sustainable measures that potentially could be applied. Specialist advisors are involved in the process, they visit the historic building and determine the historic value of its different parts. Further, the DuMO model offers up to 20 different strategies for each building. Various measures can be compared by using the international calculation model Greencalc+. In the end, owners receive an advisory report. In order to extend the application of DuMo model, a simpler and less expansive version ("Monumentenpaspoort") has been developed and more advisors were trained on both energy saving solutions and heritage.

The National and local government learned from DuMo and changed their policy considering the two important aspects: sustainability and heritage. More sustainable measures are allowed and some municipalities introduced easier permit procedures.

Lessons learnt:

Using DuMo, the beneficiaries find out that more technically refined and financially attractive approach may be applied, thus creating the premises for an increased number of buildings to be rehabilitated.

DuMO makes public a number of 20 different strategies for energetic renovation of historic buildings, allowing beneficiaries/owners to be informed, to participate in the entire process of taking decisions based on available and at hand technical facts and instructions.

Also, training the involved specialist-advisors was important for promoting and applying the DuMo model.

SE RDA uses the lessons learnt and envisages to produce a monitoring methodology by measuring the impact of energy efficiency solutions, derived from the analysis of the heritage renovation projects that are under implementation within ROP, linking them to the historic value and particularities of the renovated buildings.

4. **The platform on energy renovation of Bordeaux Metropole “Ma Renov”** – Good Practice promoted by Agence Locale de l'Energie et du Climat, Metropole Bordelaise et Gironde

Relevant aspects:

Since January 2017, the platform on energy renovation “Ma Renov” provides technical and financial support to homeowners and stimulates the market by connecting banks, contractors, craftsmen etc. with homeowners.

Independent energy advisors help homeowners from the beginning to the end of their renovation project:

- Auto-diagnostic of their energy consumptions through an online tool;
- Renovation plan;
- Financial plan, support to obtain public financial supports and loans;
- Support for the selection of craftsmen: the platform provides a list of craftsmen certified or a quality charter developed by Bordeaux Metropole. The advisors help then homeowners with the analysis of proposed technical solutions and quotes.
- Supervision of renovation works and post-renovation monitoring.

Training schemes have been implemented in order to increase the number of local skilled specialists and workers certified to intervene on heritage and traditional buildings.

Lessons learnt:

One entity – placing together a platform, several organisations and an advisory team etc - connecting the relevant contributing parties with the building owner is an important support for beneficiaries, especially for private ones, thus ensuring the objectivity of the entire process. Visibility – awareness raising, training, facile access, friendly information, is equally important for all parties, and stimulates the initiative, while providing all interested parties with an equal base for decisions.

SE RDA has been inspired by the fact that this good practice shows how owners/beneficiaries can have access to information and comprehensive advisory services. Therefore, the main deliverable of the Action Plan will provide interested parties with substantial information, tested solutions, indicators on energy efficiency etc. Dissemination will have also an important role.

The above described good practices/lessons have been shared during the interregional cooperation, exchange of information on good practices that took place in conjunction with the project meetings and study visits organized in the partner regions of VIOLET project.

III. 2 Action Description

The policy improvement objective is to extend and to improve the impact of Priority Axis 5.1. „Conservation, protection, promotion and development of natural and cultural patrimony” within Regional Operational Programme 2014 – 2020, in terms of energy efficiency by revising and updating the patrimony projects’ monitoring methodology.

The energy efficiency component will be introduced and reported during the monitoring period of projects that are currently under implementation within Priority Axis 5.1. Thus, the new monitoring methodology expands its initial purpose by confirming its "footprint" on energy efficiency and, moreover, by illustrating the harmonious cohabitation between the two sectors - protected monument and energy efficiency and creating the basis for requested/imposed energy efficiency measures as a mandatory provision for financing rehabilitation and conservation projects aiming at historic monuments.

This approach will contribute to achieving SE RDA's objectives related to VIOLET project, namely:

- to demonstrate the feasibility of energy efficiency measures in all patrimony projects;
- to validate the positive impact of Priority Axis 5.1. on energy-related indicators;
- to increase the number of heritage buildings with improved classification of energy consumption, by providing the owners with an easy-to-use methodology of introducing energy efficiency measures in rehabilitation works.

In order to achieve these objectives, the Action Plan will demonstrate that, even not requested by the Programme rules, Priority Axis 5.1 covers the energy efficiency theme in most of the financed projects, and thus, to justify the operation of extending and improving the monitoring methodology.

Demonstration and justification – Impact estimation methodology

To demonstrate and justify the contribution of Priority Axis 5.1. to energy efficiency ROP indicators, the Action Plan will exploit the premises that the projects of heritage buildings rehabilitation propose elements – architectural works, supply system, installations and equipment - that count for a more efficient energy consumption, e.g. more efficient carpentry and windows, roof, electrical installations, LED bulbs, better power systems, etc., that these proposals/measures can be identified and correlated with the type of building

to which they apply - depending on the historical value of the building, its architectural features and structure, etc.

To estimate the savings in terms of energy consumption (equivalent to lower CO₂ emissions), all technical solutions relevant for the field of energy efficiency must be identified at project level, quantified and analysed. As this phase refers to projects under implementation, the proposed analysis will be carried out on projects technical documentation as approved under the Building Permit and by the programme's authorities.

Once identified the energy efficiency-related technical solutions approved and applied for the rehabilitation of the historical monuments, their impact on energy consumption will be quantified in comparison with the buildings initial technical circumstances described in detail in their technical documentation.

Energy efficiency-related monitoring indicators will be also established so that the monitoring methodology to include targets, their definition and methods of monitoring.

Potential indicators to measure the savings in terms of energy consumption:

Indicator	Value in the beginning of project implementation	Value obtained as a result of the project implementation (output)
Annual concentration of the greenhouse gases (equivalent tones of CO ₂)		
Annual consumption of primary energy (kWh/year)		

The annual estimated decrease of greenhouse gas is the difference between the values recorded at the end of the project implementation (estimation of the measures/packages of measures proposed in the Energy Audit Report) and registered values in the beginning of the implementation, if such measurements have been performed. The annual index specific to CO₂ equivalent emissions is calculated on the basis of the Methodology for calculating the energy performance of buildings, approved by the Order of the Minister of Transport, Construction and Tourism no. 157/2007, subsequently amended and supplemented. According to the methodology, the energy consumption is recalculated for the proposed measures /package of measures, while calculating the costs and duration of investment recovery.

The decrease of the annual primary energy consumption is given by the difference between the value calculated at the end of the project implementation and the value calculated at the beginning of the project implementation. The transformation of the final energy into primary energy is performed for each energy vector (heating/cooling, hot water, electricity) using the corresponding coefficients of conversion into primary energy provided in the Order of Ministry of Regional Development, Public Administration and European Funds no. 2641/2017. It is calculated on the basis of the Methodology for calculating the energy performance of buildings, approved by the Order of the Minister of Transport, Construction and Tourism no. 157/2007, subsequently amended and supplemented.

At the same time, by identifying the concrete and approved solutions for energy efficiency and their correlation with the specificity of the historic monument, its historic value – either of the entire building, or by part, the methodology will indicate a set of energy efficiency measures that can be applied without putting at risk the integrity of the monument-building, as a result of deriving from technical projects that comply with all the monument protection legislation.

The "Energy Efficiency Impact Assessment Methodology" will be undertaken by SE RDA and it will include a clear, concrete and feasible module dedicate to monitoring projects in terms of energy efficiency impact. An estimated number of 5-7 projects will be analysed, so that results and conclusions are relevant.

Details regarding the work to be carried-out:

Phase 1: Elaboration of the VIOLET "Energy Efficiency Impact Assessment Methodology" which identifies and quantifies the energy efficiency measures in heritage buildings financed by 2014-2020 Regional Operational Programme, Priority Axis 5.1 „Conservation, protection, promotion and development of natural and cultural patrimony”:

- each project covers two sets of technical information: (1) information about the existing situation, presented in technical documentation, technical expertise, photographs, etc. and (2) information about the proposed situation (at large);
- the analysis of these two sets of information, field visits and other on-the-spot actions depending on the building site stage, as well as discussions with the designers and builders will lead to the identification of the elements/measures proposed at the level of works, installations and equipment/equipment that can leads to savings in electricity and thermal energy consumption.

The methodology will include a detailed presentation of these elements/measures from a technical point of view, and there can be also added other elements/measures in accordance with the legislation and being achievable on the ground.

Phase 2: Application of the VIOLET "Energy Efficiency Impact Assessment Methodology"

The methodology will be applied for the projects that are under implementation within the Priority Axis 5.1 - „Conservation, protection, promotion and development of natural and cultural patrimony” - 2014-2020 Regional Operational Programme. It is estimated that the methodology could be applied on an estimated number of 5-7 projects currently under implementation.

Based on the findings, a report will be drafted underlining the impact of the projects implemented within Priority Axis 5.1 from the energy efficiency perspective.

Complementary and supporting actions

In line with the lessons learnt under VIOLET Project, the following measures are to be applied so that the policy improvement action plan to have the envisaged effect, to ensure its visibility and extend its consequences beyond the ROP frame, the Methodology and its guidelines sections to become a technical tool for architects and engineers involved in projects dedicated to the rehabilitation of heritage and traditional buildings.

Supporting Action 1: Collaboration with the Territorial Directorate of Culture

The Territorial Directorate of Culture is the representative of the Ministry of Culture at county level and it is in charge of ensuring that the patrimony-related national legislation and local regulations (such as Urban Planning Plans or patrimony-related strategies) are applied for constructions in a protected area or renovations of a protected building or area.

All technical designs addressing such an investment are to be approved by the Regional/County Committees for Historic Monuments composed of architects, designers, artists, archaeologists, engineers etc.

In this context, their involvement in the Action Plan is critical and it would ensure, on one hand, the relevance and applicability of the methodology, and, on the other hand, the impact of the methodology beyond ROP frame.

Having this in mind, Braila County Directorate of Culture, as a stakeholder within VIOLET Project and as member of the Community of Practice and VIOLET Ambassador, will play an advisory role for drafting the monitoring methodology targeting heritage buildings.

Supporting Action 2: Dissemination and Awareness raising

The current context for applying energy efficiency measures to historic and traditional buildings denies the favourable impact of such measures and emphasises the possible negative irreversible changes such buildings may undergo. More informed interested parties will ensure their engagement in the monitoring process and beyond.

Thus, it is proposed that during the entire process of applying the methodology, the beneficiaries along with their project implementation team (engineers and architects, builders, site managers and project management consultants) will be informed on the practical and non-invasive solutions in which the dimension of energy efficiency can be included in the rehabilitation projects of valuable buildings.

To ensure that the methodology goes beyond ROP frame and creates a context for change, its dissemination will be undertaken by publication of the methodology on SE RDA website.

Needs to which the policy improvement proposal responds

According to the territorial analysis carried out by the beginning of the project implementation and reflected in the SWOT analyses, the following weaknesses have been identified:

Multi-sectoral needs:

- Lack of mutual understanding amongst professionals coming from the 2 sectors: energy efficiency and cultural heritage, due to much focused approaches and no integrative visions;
- The large teams of experts often tend to complicate solutions, while new research shows that keeping simple the solutions may be better for historic buildings and artefacts;
- Lack of official advice literature on energy efficiency and historic buildings guiding the stakeholders and owners on legal framework, interpretation, solutions, case studies, pool of experts, information sources, funding sources, etc.;

- Lack of visibility and promotion on the existing advice literature/voluntary regulations/codes of conduct determining lack of implementation;
- No collaboration/partnership platform for energy efficiency and heritage specialists, owners, stakeholders, etc.

Capacity needs:

- Few available training courses – either formal or informal – are available for stakeholders and public officers involved in administrating heritage buildings or initiating projects to include energy efficiency measures.

Technical and non-technical needs:

- Architects and engineers have limited information on the available solutions, including on the building materials, solving both aspects – energy efficiency and cultural heritage. Periodical and extended information and education is needed;
- Most of the listed heritage and traditional buildings that applied energy efficiency measures face serious degradations, loss of their character and authenticity, turning relevant authorities and architects against efficiency measures and calling for additional regulations;
- Few information/awareness raising /education campaigns for the users/owners of the heritage buildings, based on their specific needs, and showing the benefits of renovating the buildings, including energetic renovation, for ensuring a sustainable conservation.

Therefore, the four GPs have been of great inspiration for covering these needs with particular and adapted solutions in the action plan for implementing SE RDA policy improvement strategy, as follows:

Need	Answer
Lack of mutual understanding amongst professionals coming from the 2 sectors: energy efficiency and cultural heritage, due to much focused approaches and no integrative visions.	<ul style="list-style-type: none"> - Technical and common literature integrating the two subjects of energy efficiency and cultural heritage – GP2 - Training schemes targeting separately or jointly owners/administrators, architects and engineers, constructors and craftsmen – GP 2, GP 3, GP 4 - Awareness raising campaigns - GP 2, GP 3, GP 4
The large teams of experts often tend to complicate solutions, while new research shows that keeping simple the solutions may be better for historic buildings and artefacts.	<ul style="list-style-type: none"> - Specialised relevant institutions are involved and mediate the debate – GP 1
Lack of official advice literature on energy efficiency and historic buildings guiding the stakeholders and owners on legal framework, interpretation, solutions, case studies, pool of experts, information sources, funding sources, etc.	<ul style="list-style-type: none"> - Technical and common literature integrating the two subjects of energy efficiency and cultural heritage – GP2

Lack of visibility and promotion on the existing advice literature/voluntary regulations/codes of conduct determining lack of implementation.	- Awareness raising campaigns - GP 2, GP 3, GP 4
Few available training courses – either formal or informal – are available for stakeholders and public officers involved in administrating heritage buildings or initiating projects to include energy efficiency measures.	- Training schemes targeting separately or jointly owners/administrators, architects and engineers, constructors and craftsmen – GP 2, GP 3, GP 4
Architects and engineers have limited information on the available solutions, including on the building materials, solving both aspects – energy efficiency and cultural heritage. Periodical and extended information and education is needed.	<ul style="list-style-type: none"> - Specialised relevant institutions are involved and mediate the debate – GP 1 - Technical and common literature integrating the two subjects of energy efficiency and cultural heritage – GP2 - Training schemes targeting separately or jointly owners/administrators, architects and engineers, constructors and craftsmen – GP 2, GP 3, GP 4 - Awareness raising campaigns - GP 2, GP 3, GP 4
Most of the listed heritage and traditional buildings that applied energy efficiency measures face serious degradations, loss of their character and authenticity, turning relevant authorities and architects against efficiency measures and calling for additional regulations.	<ul style="list-style-type: none"> - Technical and common literature integrating the two subjects of energy efficiency and cultural heritage – GP2 - Training schemes targeting separately or jointly owners/administrators, architects and engineers, constructors and craftsmen – GP 2, GP 3, GP 4 - Awareness raising campaigns - GP 2, GP 3, GP 4
Few information/awareness raising /education campaigns for the users/owners of the heritage buildings, based on their specific needs, and showing the benefits of renovating the buildings, including energetic renovation, for ensuring a sustainable conservation.	<ul style="list-style-type: none"> - Technical and common literature integrating the two subjects of energy efficiency and cultural heritage – GP2 - Training schemes targeting separately or jointly owners/administrators, architects and engineers, constructors and craftsmen – GP 2, GP 3, GP 4 - Awareness raising campaigns - GP 2, GP 3, GP 4

Thus, the overall objective is to create an attractive, encouraging and supporting framework for an efficient energy approach of the heritage buildings.

III. 3 Stakeholders Involved

Name of organisation	Role in Action Plan (max.200 characters)
SE RDA – Intermediate Body for ROP 2014-2020	Support the implementation of the Action Plan by informing the beneficiaries on the improved monitoring methodology and its estimated impact.
SE RDA – Implementation Projects Department	Coordinator of the process for the policy improvement. Promoter/Ambassador of the Policy Improvement towards the members of the Local Stakeholder Group and other interested parties. In charge of monitoring the Action Plan implementation.
Braila County Directorate on Culture	Plays an important advisory role in assessing and providing recommendations on the updated version of the monitoring methodology for energy efficiency measures for heritage/traditional buildings. Participates in the awareness raising campaign for the monitoring methodology dissemination targeting owners and specialists.
Buzau County Council	Participate in the awareness raising campaign for the monitoring methodology dissemination targeting owners and specialists.
Buzau City Hall	
Tulcea County Council	
Constanta County Council	
Vrancea County Council	

III. 4 Activities and Timeframe

Activity Number	Activity Description	Responsible	Timeframe
1	Setting up of the team to elaborate the Monitoring Methodology and joint formulation of the content and schedule.	SE RDA - Implementation Projects Department	January 2020-March 2020
2	Preliminary analysis of the existent documentation (e.g the available monitoring procedure for projects under implementation within Priority Axis 5.1 of ROP; analysis of the technical documentation for the projects under implementation) as basis for the development of the draft version of the Monitoring Methodology	SE RDA - Implementation Projects Department; SE RDA - Intermediate Body of ROP 2014-2020	March 2020 – May 2020
3	Development of the draft version of the monitoring methodology	SE RDA - Implementation Projects Department	June 2020- July 2020
4	Carrying-out the consultation process for discussing the draft version of the monitoring methodology with the	SE RDA – Implementation Projects Department	July 2020 – August 2020

	representatives of ROP Intermediate Body, Braila County Directorate on Culture	(coordinator of the consultation process); SE RDA - Intermediate Body of ROP 2014-2020; Braila County Directorate on Culture	
5	Development of monitoring methodology – final version	SE RDA – Implementation Projects Department	September 2020
6	Agreement on the final version of the monitoring methodology	SE RDA - Intermediate Body of ROP 2014-2020	September 2020
7	Publication of the monitoring methodology – final version	SE RDA – Implementation Projects Department	September 2020
8	Dissemination of the monitoring methodology among the grant beneficiaries and other interested parties	SE RDA – Implementation Projects Department; Local County Councils from Constanta, Buzau, Vrancea, Tulcea and Buzau City Hall; Braila County Directorate on Culture	October 2020- December 2021
9	Application of the monitoring methodology by the grant beneficiaries	SE RDA - Implementation Projects Department; SE RDA - Intermediate Body of ROP 2014-2020; Grant Beneficiaries	October 2020 – October 2021

III.5 Risks

The policy improvement proposal and its action plan have been analysed in terms of risks management and the following risks have been identified:

Description of Risk	Level of probability (High, Medium, Low)	Description of Contingency Plan
Very limited influence to change the Policy Instrument	Low	The Action Plan was developed in collaboration with the Intermediate Body of 2014-2020 ROP and envisages the improvement of the existent monitoring methodology that is currently used by the IB for projects implementation.
The monitoring methodology and its practical guidelines for energy efficient solution for heritage/traditional buildings fails its practicality	Low	The monitoring methodology will be the result a consultation process between the ROP IB and Braila County

		Directorate on Culture in terms of its practical use and the adequate energy efficiency indicators.
Unrealistic changes in the scope of the investment priorities under the proposed Action Plan	Low	The Action Plan was discussed with IB representatives so that the changes to rigorously reflect the needs in terms of measuring the energy efficiency impact of the projects under implementation within Priority Axis 5.1.
ROP beneficiaries for applying the monitoring methodology are reluctant to measure the impact of energy efficiency in cultural heritage buildings since there are no mandatory indicators for the projects implementation	High	The methodology will be largely disseminated and the important role of its application in terms of measuring the impact of energy efficiency in cultural heritage buildings will be explained to the grant beneficiaries.

III.6 Costs

For the implementation of the Action Plan, the following costs are needed:

- ✚ staff costs for the monitoring of the projects under implementation within 2014-2020 ROP, Priority Axis 5.1.

III.7 Funding Sources

The funding sources is the Technical Assistance Programme for Priority Axis 5.1: “Conservation, protection, promotion and development of natural and cultural patrimony” within ROP 2014 – 2020 (ERDF and National Budget).

III.8 Expected impact

The "Energy Efficiency Impact Assessment Methodology" represents a clear, concrete and feasible instrument dedicated to monitoring the projects under implementation within Priority Axis 5.1 from the perspective of energy efficiency impact. It aims to be a relevant tool for the Intermediate Body of 2014-2014 ROP in terms of collecting relevant indicators on energy efficiency as a result of renovation in cultural heritage buildings, but also a technical tool for architects and engineers involved in projects dedicated to the rehabilitation of heritage and traditional buildings.

Therefore, the methodology can be easily transferred to other Regional Development Agencies from Romania, as an instrument to be used for the monitoring of the cultural heritage projects.

The estimated impact of the methodology is to demonstrate and justify the contribution of Priority Axis 5.1. to energy efficiency ROP indicators.

Thus, the new monitoring methodology expands its initial purpose by confirming its "footprint" on energy efficiency and, moreover, by illustrating the harmonious cohabitation between the two sectors - protected monument and energy efficiency, and creating the basis for requested/imposed energy efficiency measures as a mandatory provision for financing rehabilitation and conservation projects aiming at historic monuments.

IV – Official Signature(s)