

# VIOLET PROJECT

Cyprus Energy Agency

# ACTION PLAN



*Photo on the cover: Library Hotel, Kalavassos, Larnaka, Cyprus*  
*[Architect responsible for restoration: Ms Antonia Theodosiou – Source: Private Archive of Ms Theodosiou]*



## CONTENTS

FIGURES .....	3
ABBREVIATIONS .....	4
PREFACE .....	5
INTRODUCTION .....	6
OVERVIEW .....	7
European Level .....	7
National Level .....	7
Lessons learnt from VIOLET's implementation [regional and interregional] .....	12
Overall Conclusions reached during the 1 <sup>st</sup> Phase of the project .....	13
On Policy Level .....	13
On Technical level .....	13
NATIONAL ACTION PLAN .....	14
Foreword .....	14
Timeframe of policy change within VIOLET Project .....	16
Part I - General information .....	17
Part II – Policy context .....	18
Action Plan impact .....	18
Name of the policy instrument addressed .....	18
Managing Authority of the policy instrument addressed .....	18
Overall indicator .....	18
Part III – Details of the actions envisaged .....	19
ACTION 1: Recommendations for the EU level recast Energy Performance of Buildings Directive .....	19
ACTION 2: Issuance of Energy Performance Certificates for heritage buildings .....	28
ACTION 3: Issuance of Guidebook for the energy upgrade of heritage buildings .....	36
ACTION 4: Interdisciplinary Seminars [courses] for professional training .....	44
Overall Timeframe for Activities [PHASE 2] .....	50
Overall Budget for Activities [PHASE 2] .....	50
RISK ASSESSMENT AND CONTINGENCY PLANS .....	51
OTHER ACHIEVEMENTS .....	52
REFERENCES .....	54
ANNEX I: Community of practise - members .....	56
ANNEX II: First policy addressed .....	57
ANNEX III: Preparation for participating in the consultations for the amendments of the EPBD .....	60
ANNEX IV: Prioritization of solutions in accordance to territorial needs .....	61
ANNEX V: Information on project activities carried out .....	67
ANNEX VI: Participation to the public consultation [GR] .....	68



## FIGURES

<b>Figure 1:</b> VIOLET's project picture [VIOLET 2017-2021, Interreg Europe].....	5
<b>Figure 2:</b> First local CoP meeting - SWOT analysis for the energy efficiency of heritage buildings. Lefkosia, Cyprus, March 2017. ....	10
<b>Figure 3:</b> Bilateral Meeting with CoP members [Preservation Sector, Town Planning & Housing Department]. Lefkosia, Cyprus, February 2019. ....	10
<b>Figure 4:</b> 1 <sup>st</sup> local WISE event, "Prospects and energy saving solutions through the energy upgrade of buildings", VIOLET's presentation –Lefkosia, Cyprus, March 2018.....	11
<b>Figure 5:</b> 2 <sup>nd</sup> local WISE event, "Policies and Recommendations for Energy Saving   Energy Management - energy efficiency - Local Action Plans", VIOLET's presentation – Lefkosia, Cyprus, April 2019.....	11
<b>Figure 6 a and b:</b> Bilateral meeting with the GD EPCD [the Managing Authority of the first selected policy] in May 2019. Lefkosia, Cyprus.....	15
<b>Figure 7:</b> Cyprus Energy Agency brochure - VIOLET's Project Partner for Cyprus - Responsible for the local Action Plan. ....	17
<b>Figure 8:</b> Listed building in Kato Arodes, Paphos, Cyprus. During restoration, a PV system was installed – Presented during the 1 <sup>st</sup> WISE event [Source: Private Archive of Ms Antonia Theodosiou, Architect, Environmental Engineer].....	19
<b>Figure 9:</b> Listed building in old Lefkosia, Cyprus. During restoration, thermal insulation was installed. An extension was also added with a PV system on its roof – Presented during the 1 <sup>st</sup> WISE event [Source: Private Archive of Ms Antonia Theodosiou, Architect, Environmental Engineer] .....	20
<b>Figure 10:</b> 5 <sup>th</sup> Project Meeting in Middelburg. CEA participated with 3 key-stakeholders for exchanging expertise - Middelburg, Netherlands, May 2019.....	21
<b>Figure 11:</b> Aggregate CoP meeting for the Action Plan and the EPBD amendments. Lefkosia, Cyprus, June 2019.....	22
<b>Figure 12:</b> 2 <sup>nd</sup> Project Meeting in Cyprus. CEA organised the Project Meeting in combination with the local CoP meeting for exchanging expertise. Mr Nicos Hadjinikolaou, the Energy Ambassador, presented the local framework for the EPBD to the consortium - Lefkosia, Cyprus, September 2017.....	23
<b>Figure 13:</b> 3 <sup>rd</sup> Project Meeting in Germany. CEA participated with 2 key-stakeholders. Mr Nicos Hadjinikolaou, the Energy Ambassador, was one of them - Schwäbisch Gmünd, Germany, May 2018.....	23
<b>Figure 14:</b> Local CoP meeting and staff exchange with Middelburg. The results from the Energy Performance Certificates for 14 heritage buildings were presented - Lefkosia, Cyprus, December 2019.....	28
<b>Figure 15:</b> Geographic dispersion of selected heritage buildings per category.....	30
<b>Figure 16:</b> Left: Energy performance certificate of a private residential building in Lefkara without energy efficiency measures.....	30
<b>Figure 17:</b> Energy performance certificate of a public building [cultural centre] in Lefkosia without energy efficiency measures.....	31
<b>Figure 18:</b> Energy performance certificate of a public building [offices] in Pera Oreinis with energy efficiency measures.....	32
<b>Figure 19:</b> Presentation of Good Practises from partners' countries during the EU WISE Event in Seville - Spain, October 2018. ....	38
<b>Figure 20:</b> Presentation of the SUMO [or DUMO] tool from a stakeholder form Netherlands. EU WISE Event - Seville, Spain, October 2018.....	38
<b>Figure 21:</b> Presentation of the Responsible Retrofit Guidance Wheel tool from a stakeholder form France. 6 <sup>th</sup> Project Meeting - Bordeaux, France, October 2019. ....	39
<b>Figure 22:</b> Study visit during the CoP meeting and the staff exchange with Middelburg on the site of an Ancient Monument which is currently under restoration with energy efficient criteria - Pera Oreinis, Cyprus, December 2019. ....	39
<b>Figure 23 a and b:</b> Construction works in heritage buildings in Schwäbisch Gmünd, Germany. The pictures were provided by local stakeholders a-priori to the study tour at the restored buildings in order to show the interventions which took place. The importance of educating professionals was stressed at the study tour since any false interventions can have catastrophic results for heritage buildings. May 2018.....	45
<b>Figure 24:</b> First CoP meeting at Local level. Lefkosia, Cyprus, March 2017. ....	56



## ABBREVIATIONS

CEA	Cyprus Energy Agency
CoP	Community of Practise
EPBD	Energy Performance of Buildings Directive
MS	Member State
GHG	Greenhouse Gas
RES	Renewable Energy Sources
OP	Operational Programme
MA	Managing Authority
DG EPCD	Directorate General for European Programmes, Coordination and Development
WISE	Workshops Involving Stakeholders on Energy
PP	Programming Period
GP	Good Practise
EPC	Energy Performance Certificate
PM	Project Meetings
NZEBs	Nearly Zero-Energy Buildings



## PREFACE

[VIOLET](#) is an Interreg Europe project [2017 – 2021], which addresses the common challenge among EU regions, for creating a building culture that is sympathetic to modern requirements of reinstatement and conservation, for improved energy usage and reduced carbon emissions, without endangering architectural heritage. VIOLET, tackles this challenge with an overall aim to **improve regional public policy** to enhance energy efficiency in heritage buildings, by addressing both, low carbon and cultural preservation actions.

To achieve this goal, VIOLET brought together partners from Romania, Spain, France, Netherlands (regional level) and Cyprus (national level), at different stages of development, to foster a multi-sector, integrated planning approach bringing together organisations in charge of energy efficiency and those in charge of cultural heritage, at regional and EU level.

Through VIOLET, each region created an Action Plan describing the policy actions required to improve energy efficiency in heritage buildings. The Action Plan describes concrete measures and includes commitments from relevant public authorities to secure financial resources and policy support.

This document constitutes the **Action Plan for Cyprus**, which is the result of the work done during the first Phase of the Project [2017 - 2019]. [Cyprus Energy Agency](#) [CEA], is the responsible partner for drafting the local Action Plan, with the contribution of the local Community of Practise [CoP], which is constituted of members from Ministries, Local Authorities, Universities, Relevant Associations & NGOs, and individual experts. During the second phase of the project [2020 – 2021], CEA will work with the local CoP in order to implement all the Actions indicated in the Action Plan, ensuring the improvement of the selected policy.

VIOLET has a total budget **1.3 million euros**, and it is co-funded by 85% from the European Regional Development Fund.



*Figure 1: VIOLET's project picture [VIOLET 2017-2021, Interreg Europe]*



## INTRODUCTION

The European 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, European Union [EU] legislation, such as the Energy Performance of Buildings Directive [EPBD] (2018/844/EU)<sup>1</sup> and the energy efficiency Directive (2012/27/EU), provide standardised methodologies and do not consider the application of modern energy efficiency standards to heritage buildings<sup>2</sup>. In this context, much of the Member States regulations are based on the European Standard 'EN 16883:2017 Conservation of Cultural Heritage Guidelines'<sup>3</sup>, even though this is only a suite of non-statutory guidelines.

Neglecting the above might run the risk of enhancing negative perceptions around 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 heritage building stock, especially about its special features.

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. Heritage buildings must be included in the current legislation/regulation in a more elaborated and targeted manner than currently provided for 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.

---

<sup>1</sup> To be transposed into national legislation by early 2020.

<sup>2</sup> For the purposes of the Action Plan, 'heritage buildings' are all buildings of notable cultural and/or historical value, without necessary being under protection status.

<sup>3</sup> Drafted by the technical body for the Conservation of Cultural Heritage within the European Committee for Standardization (CEN).



## OVERVIEW

### European Level

The energy and climate targets set by the European Union [EU] for 2020 are now completed. According to recent data, even if there was a great improvement for the majority of Member States [MSs], further actions are still needed (eurostat, 2019). For this reason, the EU's Energy and Climate targets are becoming more ambitious for the next decade<sup>4</sup>, with an overall to improve Europe's energy security, competitiveness and sustainability (EC, 2019). To meet these goals, MSs are obliged to adopt integrated National Climate and Energy Plans [NECPs], appropriate to their specific circumstances, for the period 2021-2030.

Among the biggest challenges to reach the long-term climate Greenhouse Gas [GHG] emission target, is the decarbonisation of the building stock, which is responsible for approximately 36% of all CO<sub>2</sub> emissions and 40% of the final energy consumption in the EU (eurostat, 2019). For this reason, MSs have already adopted national plans for mobilizing investments for the energy renovation of the existing building stock (Paci, et al., 2019), but still, declared<sup>5</sup> heritage buildings are exempted since compliance with the set requirements, might eventually alter their character (DIRECTIVE\_2012/27/EU).

On this basis, EU has published a new Directive (EU) 2018/844 which amends the Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency (DIRECTIVE\_2018/844). The Directive, which needs to be transposed into National Law by early 2020, calls MSs to set a clear vision to guide their policies and investment decisions, with indicative national milestones and measurable, targeted, actions for energy efficiency to achieve the short-term (2030) and long-term (2050) objectives. Among others, the MSs should establish a long-term renovation strategy for their building stock.

Within this framework, the Directive encourages MSs to *'increase research and technical capacity to adapt and improve the energy efficiency of historical buildings<sup>6</sup> and sites, while also preserving and maintaining their cultural heritage'* [par. 18]. This is a research field that has been gaining recognition over the last decade, necessitating the modification of the current policy in regards the EPBD, to include also heritage buildings.

Currently the efforts in most MSs concentrate to the transpose of the Directive, but the uncertainty in regards the official commitments for heritage buildings remains at high levels. This is mainly because the Directive encourages, but not obliges, the MSs to take action. Nonetheless, even if some countries as United Kingdom, Greece, Sweden and Netherlands, have already adapted measures at policy level, addressing the energy efficiency of historic buildings (McCaig, Pender, & Pickles, 2018; EYEE, 2012; Brostrom, Nilsen, & Calsten, 2018; EFFESUS, 2016), the majority of the MSs are still on an early stage (Brostrom, et al., 2018). Without this forward-looking policy change, traditional buildings that are now a valuable asset might become a burden in the near future.

### National Level

An increasing trend exists also at national level about the energy performance of heritage buildings and thermal comfort aspects, nonetheless, this focuses mainly on research level. Two of the biggest national research programs the BioVernacular (BIOVERNACULAR, 2012-2014) and Biocultural (BIOCULTURAL, 2013-2015), explored methods for the conservation and restoration of traditional buildings and settlements, and

---

<sup>4</sup> EU commitment for 2030: (a) further reduction of the greenhouse gas emissions by at least 40% by 2030 as compared to 1990, (b) increase of the penetration of Renewable Energy Sources by 32%, and (c) increase of energy efficiency by at least 32.5%,

<sup>5</sup> Under official protection status in accordance to national/regional regulations which prohibits or limits the interventions on the buildings.

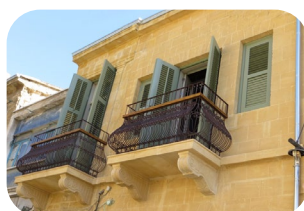
<sup>6</sup> Currently, approximately 30% of the EU building stock consists of historic buildings with architectural and cultural value (Bouw, et al., 2016).

investigated refurbishment strategies while giving emphasis on preserving elements of bioclimatic design (Philokyrou, et al., 2014). On other recent studies, the overall thermal performance of vernacular buildings (Philokyrou, et al., 2017) and of various traditional materials, such as stones and adobes (Kyriakidis, et al., 2018) & (Malaktou, et al., 2018), is assessed. There is also an on-going research for new, compatible, materials that can be used for the renovation and retrofitting of existing structures without endangering the building (Theodoridou, et al., 2016). In general, it is proven that vernacular buildings perform better in terms of thermal comfort for the summer period due to high thermal inertia and other passive elements, but in winter they are underperforming, mainly due to the high thermal conductivity of the wall elements (Michael, et al., 2016) & (Heracleous, et al., 2017).

Nonetheless, up to this day, there is no direct connection on policy between the restoration of heritage buildings and energy efficiency aspects, and to make things more complicated, they fall under the jurisdiction of several Departments depending on several peculiarities. In specific, at national level the following apply:

- The **Listed** buildings are in the responsibility of the **Preservation sector** of the Town Planning & Housing Department, Ministry of Interior [protected status];
- The **Ancient Monuments** are in the responsibility of the **Department of Antiquities** of the Ministry of Transport, Communications & Works [protected status];
- The **Traditional lodgings**<sup>7</sup> which are used for touristic accommodation fall in the jurisdiction of the Deputy Ministry of Tourism, but they are licensed by the Town Planning & Housing Department;
- The **'Areas of Special Interest'**<sup>8</sup> are in the responsibility of the Town Planning & Housing Department or of the respective Local Authorities [Municipalities].

The graph below indicates the number of heritage buildings per category [based on data from 2018]. It can be roughly estimated that the heritage buildings in Cyprus constitute around 4% - 8% of the whole building stock at this moment<sup>9</sup>.



**LISTED BUILDINGS**

Ministry of Interior –  
Town Planning &  
Housing Department,  
Preservation sector

6368



**ANCIENT MONUMENTS**

Ministry of Transport,  
Communications &  
Works – Department  
of Antiquities

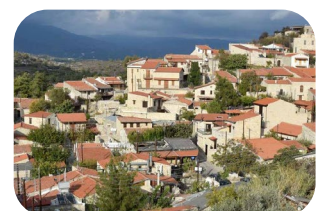
>300 [Category B']



**TRADITIONAL  
LODGINGS for  
TOURISTIC  
ACCOMMODATION**

Deputy Ministry of  
Tourism and Town  
Planning & Housing  
Department

396 [1606 rooms]



**TRADITIONAL  
BUILDINGS, OTHER**

[includes also  
traditional settlements  
- Areas of Special  
Interest']

Town Planning &  
Housing Department

> 11,000

On the other hand, the Energy Service, of the Ministry of Energy Commerce and Industry, is the responsible Department for the implementation of the EPBD, from which the declared heritage buildings are currently

<sup>7</sup> Those might belong to categories 1 and 2 also.

<sup>8</sup> Designated areas of special social, historic, architectural or cultural interest. Locally there are 168 'Areas of Special Character', which include cultural heritage buildings but are not officially declared, which require different approach for energy upgrades.

<sup>9</sup> Compared to the overall building stock which was ≈ 482,940. [Source: Statistical Service, Republic of Cyprus, Construction and Housing Statistics 2016, Construction Statistics - Series II - Report No. 39, © Copyright: 2018 /Republic of Cyprus]



exempted. In addition, the current Regional Operational Programme [2014-2020], addresses aspects relative to VIOLET's objectives, in two different axes, the Priority Axis 5 [2017]: Promotion of Sustainable Transport and Reduction of Carbon Dioxide Emissions, & the Priority Axis 6 [2017]: Sustainable urban development.

In regards the available incentive schemes at local level, the declared buildings, which include the Listed Buildings and the Ancient Monuments, are currently subsidized for restoration works from national funds to compensate the 'lost' development rights of the owners<sup>10</sup> and to acknowledge the increased challenges of a restoration<sup>11</sup>. The incentives are focusing on cultural aspects, and even if they do not directly exclude energy efficiency-related measures, they do not address them. This impacts significantly the decisions taken which in turn affects the building's energy performance and consequently, the comfort conditions of users. For the meantime, as derived from the local CoP meetings, the decisions for energy upgrade interventions, fall under the initiative and the conviction of the architect and the owner's budget.

On the other hand, the traditional lodgings are periodically funded, mainly by Structural Funds [Axis 1<sup>12</sup>], whereas the energy upgrades of the existing building stock were periodically funded by Structural Funds [Axis 5], within the Investment Priority 4iii<sup>13</sup>. As the Budget from the Structural Funds which was dedicated to the above investment priority has been utilized, the energy upgrades for private buildings are now funded by a dedicated, national fund for Renewable Energy Sources [RES] and Energy Savings.

It is also noted that in both the above cases for the energy upgrades, there is not a specific approach for heritage buildings. Even if these buildings are not exempted from applying in schemes for energy renovations, the technical requirements of the schemes are generally considered as 'difficult to be reached' and therefore, they are usually overlooked. In addition, as currently they can be exempted from meeting the minimum requirements for energy efficiency, the majority do not proceed to relevant interventions. As a result, important heritage buildings remain inefficient in terms of energy consumption and thermal comfort.

All the above make the existing policy framework, about the energy efficiency of heritage buildings, very complex. Time consuming processes, increased fragmentation, excessive bureaucracy, lack of double expertise and new technical solutions, absence of coordinated actions and political commitment from the competent departments, are the main characteristics of this subject. Those were highlighted during VIOLET's implementation [Figure 2].

Recognizing the complexity of the above issue and after a key-stakeholders' analysis, CEA upon the initiation of the project, invited more than 20 members from various backgrounds and expertise, to contribute to the local CoP. Representatives from the Managing Authority of the selected policy<sup>14</sup>, Ministries, Local Authorities, Universities, Associations, NGOs and individual experts, from both the field of Energy and Culture Heritage, relevant to VIOLET's scopes, formed the local CoP. For more info on this, see [Annex I](#).

---

<sup>10</sup> Apart from the direct grants, tax incentives and transfer of Development Rights [Listed Buildings] are provided as incentives. The aim of those is clearly the preservation of the architectural heritage, as they do not include income criteria. Subsidy is also provided for the architectural study and supervision.

<sup>11</sup> Good Practise recognised at Local Level for VIOLET project.

<sup>12</sup> Priority Axis 1: "Reinforcement of the competitiveness of the economy", Investment Priority: 3i: *Promotion of Entrepreneurship*. This includes the 'Agrotourism Scheme' which encourages investments by SMEs in mild forms of business tourism that focus on enhancing and enriching the cultural and environmental elements of the countryside. It also targets to rescue, preserve, restore and upgrade the cultural face of Cyprus. It includes listed buildings, ancient monuments and traditional buildings at the areas covered by the Scheme.

<sup>13</sup> Investment Priority 4iii: *Support energy efficiency, smart energy management and use of renewable energy sources for public facilities including public buildings and housing sector*;

<sup>14</sup> Described in the following chapters.



*Figure 2: First local CoP meeting - SWOT analysis for the energy efficiency of heritage buildings. Lefkosia, Cyprus, March 2017.*

Within the project, and based on the above, different interregional and local activities took place, setting the basis for the changes in the policy instrument addressed. In specific, since the beginning of the project, 6 CoP meetings, more than 15 bilateral meetings and 5 interregional meetings with key stakeholders and staff exchanges, were held [Figure 3]. In addition, 2 WISE events with open discussions were organised during the 2<sup>nd</sup> and 3<sup>rd</sup> year of the project [Figures 4 and 5]. All the lessons learnt from the cooperation, are exploited in order to improve the policy instrument tackled through specific Actions.



*Figure 3: Bilateral Meeting with CoP members [Preservation Sector, Town Planning & Housing Department]. Lefkosia, Cyprus, February 2019.*



*Figure 4: 1<sup>st</sup> local WISE event, "Prospects and energy saving solutions through the energy upgrade of buildings", VIOLET's presentation –Lefkosia, Cyprus, March 2018.*



*Figure 5: 2<sup>nd</sup> local WISE event, "Policies and Recommendations for Energy Saving | Energy Management - energy efficiency - Local Action Plans", VIOLET's presentation – Lefkosia, Cyprus, April 2019.*



## Lessons learnt from VIOLET's implementation [regional and interregional]

Overall, it can be seen that improvements are needed, both at European and national level, to address the aspects of energy efficiency in regards heritage buildings. Further to the current research who assess mainly individual cases, it seems that this field should be expanded to include larger scale assessments (ie. Buildings within settlements with common characteristics), but also to utilize suitable tools for the assessment of energy interventions. Furthermore, it is essential to develop energy efficiency standards and/or guidelines which will prove that energy refurbishment of heritage buildings is viable and result in significant energy savings, cultural value, increased wellbeing and economic opportunities. The next step appears to be the influence of policies since there is significant research on this field that is yet to be taken into advantage.

In addition, over the last years it has been argued that achieving a truly energy efficient building requires consideration of the total amount of energy used over the building's life cycle. Nevertheless, this is an area that requires more investigation as current policy, legislation and standards put focus on the energy use for building operation. The embodied energy in a heritage building evolves as an important aspect to acknowledge when developing energy-retrofit strategies, as it can result to significantly different total life-cycle energy use.

At current state, it is obvious that there are no universal retrofit solutions; the restoration of every heritage building (or settlement) must be independently evaluated considering various contextual factors, such as climate zones, construction characteristics, and building shapes. However, it has been recognised that there is an inextricably link between the improvement of the energy performance of heritage buildings and the enhancement of internal comfort conditions which in turn, motivates users to live in and maintain the historic buildings over time, ensuring their conservation and endurance. Nonetheless, the energy upgrade of heritage buildings requires detailed planning in order to guarantee that the case-specific variables are thoroughly considered.

The mobilization of financing opportunities for the energy upgrade of heritage buildings and/or the acquisition of relevant technical skills can be an additional enhancement, in order to create a building culture that complies to modern needs of reinstatement and conservation, for improved energy usage and reduced carbon emissions, without endangering architectural heritage. Both, public and private, administrators/owners can be motivated to work towards this direction by having access to specific financial opportunities. In any other case, the investment might look unaffordable, leaving these buildings neglected or underperforming. Nonetheless, direct grant-in-aid is not to considered as a 'panacea'. Other actions can, and should, be promoted for targeted research and initiatives which will influence the current policy, in order to accelerate the transition to energy efficient cultural buildings.

As an overall approach for energy retrofitting heritage buildings, the enhancement of the bioclimatic aspects of vernacular architecture appears as the first priority. This is followed by individual or combinational measures/interventions for energy savings and increased performance. However, there is still significant uncertainty and ambiguity about the principles or methodologies used for assessing, or defining, cultural heritage values and for evaluating the feasibility of energy efficiency improvements. Before initiating any energy efficiency interventions in heritage buildings it is essential to develop clearly articulated notions at policy level, and to fully understand their inherent values (aesthetic, scientific, historical, social, and cultural values).



## Overall Conclusions reached during the 1<sup>st</sup> Phase of the project

### On Policy Level

- There is a positive response for addressing energy efficiency issues in heritage buildings, but is not easy for the Competent Departments to take initiatives or responsibility;
- There is a lack of dual expertise in the Competent Departments, however, they are positive in case of cooperation between departments;
- Except the technical aspects, the gap and the complexity in regards the energy performance of cultural heritage buildings, involves also economic and political aspects;
- The proposed policy improvements should promote targeted, measurable measures for the energy upgrade of heritage buildings;
- There is a positive response to small changes until more decisive decisions are made;
- It is impracticable to create an incentive plan solely for the energy upgrade of heritage buildings;
- The simplification of procedures and the definition of competencies regarding the energy performance of cultural heritage buildings, are essential.

### On Technical level

- Whilst almost every heritage building can accommodate some energy improvements without harming either its special interest or environmental performance, an appropriate balance is needed to avoid measures that might increase the risk of deterioration of the building fabric or harm the building's character;
- Simple measures such as roof insulation can bring significant improvements, however they request relevant guidelines and dual expertise for energy efficiency and cultural heritage;
- Appliances and fittings can often be upgraded giving considerable savings without the need to substantially alter historic fabric;
- Maintenance and continuous use are an important factor - An older building that is kept in use and in good state, it will generally perform much better than one that is neglected;
- On settlements that have a lot of heritage buildings, other techniques can be provided on community level, ie. district heating, community photovoltaic system.



## NATIONAL ACTION PLAN

### Foreword

A priori to the selected Policy, Cyprus Energy Agency [CEA], chose to enhance a policy related to the **Operational Programme [OP]: “Competitiveness and Sustainable Development 2014-2020”**. In specific, for the first years of VIOLET, the efforts concerned the enhancement of the OP, the Priority Axis 5: *Promotion of Sustainable Transport and Reduction of Carbon Dioxide Emissions [2017]*<sup>15</sup> and the Investment priority 4iii: *Support energy efficiency, smart energy management and use of renewable energy sources for public facilities including public buildings and housing sector*. The specific objectives SO1: *Increase energy saving for public buildings* and SO2: *Increase energy savings for residential houses*, where the fields selected for developing new policies in regards heritage buildings. The Managing Authority [MA] of this policy instrument is the Directorate General for European Programmes, Coordination and Development [DG EPCD], also member of the local CoP.

During the 3<sup>rd</sup> year of the project [May 2019], CEA submitted three relevant proposals/recommendations to the DG EPCD, based on the project’s outputs, for enhancing the above policy [Figures 6a and 6b]. The proposals are provided in [Annex II](#). Nonetheless, the DG EPCD explained that even if the suggestions are very well documented and targeted, they are very ambitious for the current Programming Period [PP]. This is because the timing was not ideal for this kind of changes and that due to procedural matters, it would not be possible to adopt these recommendations. At that stage, the DG EPCD was already preparing for the next PP, and therefore emphasis was given to the forthcoming activities. The DG EPCD suggested that CEA should present its proposals in cooperation with the Competent Departments [like the Energy Service] for the next PP, during the consultations which will take place in 2020 [PHASE 2 of the Project].

Up to that point, the improvement of the Selected Policy was of utmost importance, and the connection between the regional OP and VIOLET was considered as a priority, therefore on July 2019, CEA submitted two other alternatives to the DG EPCD. The final response of the DG EPCD came in August 2019 and stated that at the stage they were, it was not possible to modify either the budgets or the selection criteria for residential or public buildings to include heritage buildings for energy upgrades.

CEA, after the updates from the DG EPCD and the confirmation that no other actions were possible for affecting the selected Policy, decided to **set the basis for the local Action Plan on a new policy, which is the amendment of the new EPBD at national level**, in order to address the fundamentals of the ‘energy efficiency in heritage buildings’ topic. Relevant short-term and long-term actions have already identified and initiated addressing this.

CEA informed both the consortium partners and the local stakeholders’ group (CoP), for this change in order to achieve a smooth transition with their approval. The DG EPCD was also informed for this change and CEA continues to be in contact with them in order to utilize the results of the VIOLET project, in cooperation with the relevant Ministry, even if these fall into the next Programming Period.

---

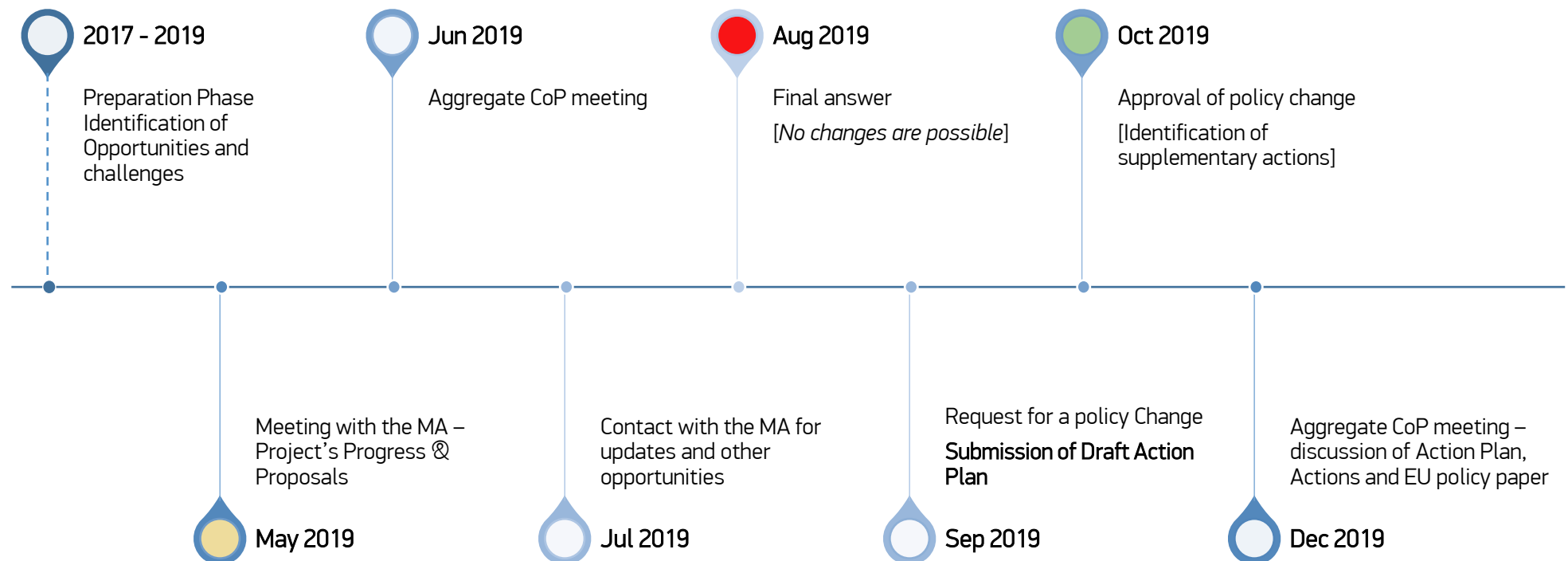
<sup>15</sup> Initially it was ‘Priority Axis 3: *Reduction of Carbon Dioxide Emissions and Adaptation to Climate Change*’ [2014]. On 2017, it changed due to National level decision.



*Figure 6 a and b:* Bilateral meeting with the GD EPCD [the Managing Authority of the first selected policy] in May 2019. Lefkosia, Cyprus.



## Timeframe of policy change within VIOLET Project





## Part I - General information

Project: **VIOLET**

Partner organisation: **CYPRUS ENERGY AGENCY**

Country: **CYPRUS**

NUTS2 region: **CYPRUS**

Contact person: **MARIA ACHILLEOS**

- email address: **maria.achilleos@cea.org.cy**
- phone number: **+357-22667716**



Cyprus  
Energy  
Agency



*Figure 7: Cyprus Energy Agency brochure - VIOLET's Project Partner for Cyprus - Responsible for the local Action Plan.*



## Part II – Policy context

### Action Plan impact

→ A national development policy instrument

### Name of the policy instrument addressed

'Regulation on the Energy Performance of Buildings (Amendment) Law of 2019' for Cyprus

Based on the: Directive (EU) 2018/844 of the European Parliament and of the Council of 30 May 2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency.

The Directive must be transposed into National Law by **March 2020**.

- In accordance to the Directive, each Member State needs to apply compliance with the following:
  - 1) Development of a sustainable, competitive, secure and decarbonised energy system;
  - 2) Establishment ambitious commitments to reduce GHG emissions<sup>16</sup> further;
  - 3) Improvement on the country's energy security, competitiveness and sustainability;
  - 4) Reinforcement of the financing framework which will ultimately improve the financial conditions of energy efficiency investments on the market.

### Managing Authority of the policy instrument addressed

Energy Service - Ministry of Energy, Commerce and Industry

### Overall indicator

Nº of Buildings part of the historical and cultural heritage that have been restored or improved with energy efficiency Criteria: 20 buildings

---

<sup>16</sup> For Cyprus the target has been set to at least 24% reduction by 2030, compared to 2005 levels.

## Part III – Details of the actions envisaged

### ACTION 1: Recommendations for the EU level recast Energy Performance of Buildings Directive

*This Action has already been implemented during Phase 1 of the project.*

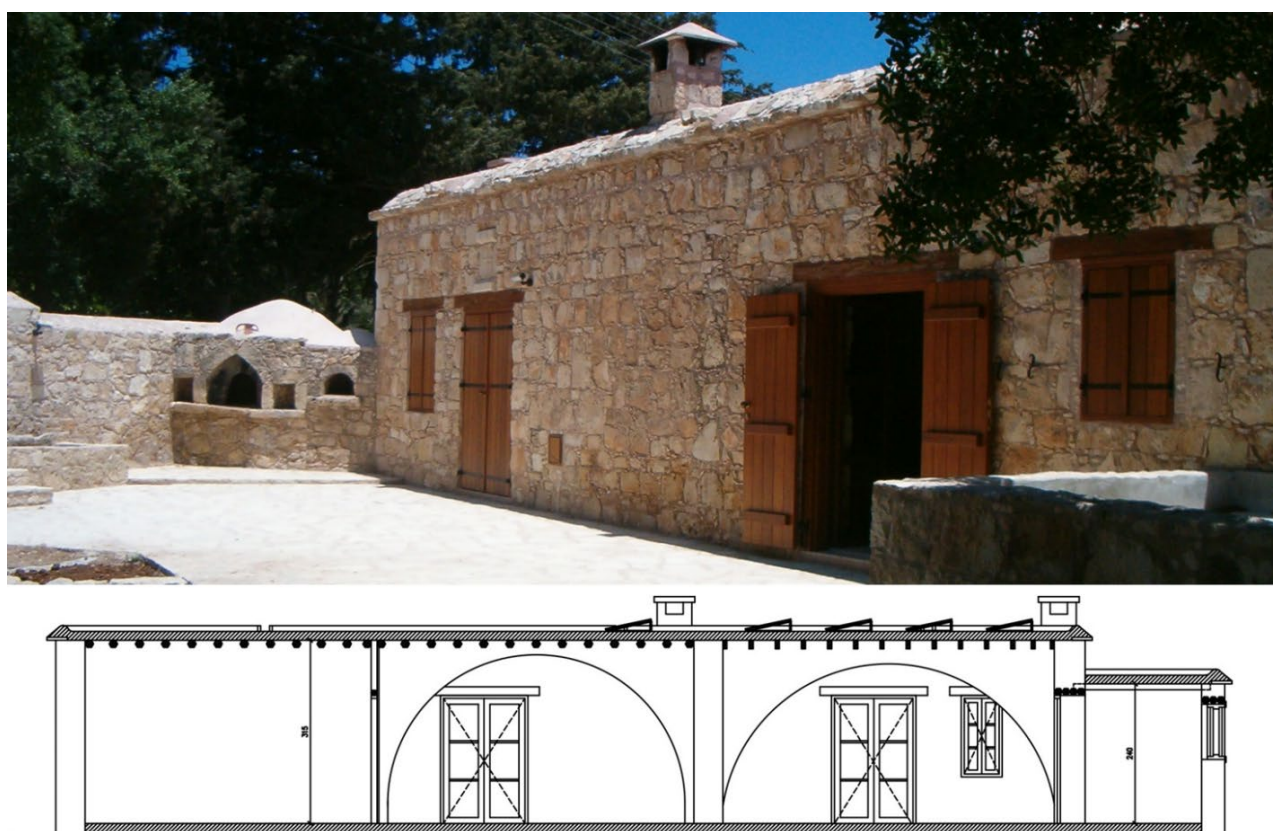
#### Specific Indicator

Participation to at least 1 public consultation, based on VIOLET's outputs, for the amendment of the relevant national legislation.

#### Link to the policy instrument addressed

Currently, heritage buildings that are under protection status [as described above], are expressly exempted from the need to comply with the energy efficiency requirements of the Regulations, since compliance might unacceptably alter their character and appearance. Nevertheless, when undertaking work on, or in connection with, a building that falls within the above cases, the aim should be to improve energy efficiency as far as is reasonably practical. The work should not prejudice the character of the building or increase the risk of long-term deterioration of the building's physical fabric or fittings.

Locally, there are already some examples of heritage buildings, which incorporated energy improvement measures [Figures 8 and 9], but this remains far from common practise and it is dependable on the owner's and/or the architect's will, as it is not regulated by Law.



*Figure 8: Listed building in Kato Arodes, Paphos, Cyprus. During restoration, a PV system was installed – Presented during the 1<sup>st</sup> WISE event [Source: Private Archive of Ms Antonia Theodosiou, Architect, Environmental Engineer]*



*Figure 9: Listed building in old Lefkosia, Cyprus. During restoration, thermal insulation was installed. An extension was also added with a PV system on its roof – Presented during the 1<sup>st</sup> WISE event [Source: Private Archive of Ms Antonia Theodosiou, Architect, Environmental Engineer]*

A more complicated case, however, is the one regarding ‘traditional’ buildings [in terms of construction technique, materials used and year of construction], which are not under any protection status. For these buildings, there is no exception from meeting the minimum requirements of energy efficiency, but at the same time there is no obligation for proper restoration [in accordance to the decrees for heritage protection]. This might result to the loss of the traditional architectural heritage or to buildings with low energy performance.

Moreover, at national level, all the incentives provided up-to-day- from the Energy Service, concerned the energy upgrade of residential buildings, and even if they did not exclude interventions in heritage buildings, the set criteria<sup>17</sup> and technical requirements for a holistic energy improvement, proved to be very difficult to reach for these buildings. This resulted to their -indirect- exclusion from the available incentives.

Likewise, the existing incentives on buildings under protection status (direct grants, tax incentives and the transfer of development rights), have as main target the protection of the cultural and architectural heritage. Even if these incentives are of a great importance and they already provided solid results, they do not directly address the energy performance of buildings, which usually leads to noncompliance with the today’s standards for energy efficiency. Actually, energy upgrade interventions are not excluded, but the overall financing is considered too low to include these as well, therefore it is not a priority.

Taking all the above into consideration and in response to the Directive (EU) 2018/844 and VIOLET’s outputs, it is evident that there is a need for a new supporting policy framework for the energy upgrade of cultural heritage buildings. As it has been identified from the regional analysis that there is a lack of political commitment and of double expertise, this Action aimed to motivate the current market and increase capacity by ultimate changing the basic driver for the energy efficiency of heritage buildings, which is the Law (the adapted EPBD).

A suitable change to the national legislation is expected to encourage owners of heritage buildings to proceed to energy efficiency interventions with respect to the historic quality of the building and its surroundings. Within VIOLET, and especially during the Good Practises’ [GPs] analysis at consortium level, CEA identified that the Middelburg’s<sup>18</sup> example for adjustments in the legislations and simplification of procedures, ‘*Fast, simple and free permit for solar panels in a historic surrounding*’, can be used as reference for its approach [Figure 10].



*Figure 10: 5<sup>th</sup> Project Meeting in Middelburg. CEA participated with 3 key-stakeholders for exchanging expertise - Middelburg, Netherlands, May 2019.*

<sup>17</sup> Those included: ‘A’ class on Energy Performance Certificate, and/or 50% savings on primary energy.

<sup>18</sup> CEA took into advantage the 5<sup>th</sup> Project Meeting which was organised in Middelburg and participated with 3 key stakeholders (members of the CoP), in order to exchange expertise with the local stakeholders and the rest of the partners. The 3 members of the CoP had also the opportunity to participate in the study visits and to the presentations of the Middelburg’s stakeholders, which inspired them to see what can be changed at policy level. Their suggestions and experiences were presented in the local CoP meeting.



By using the outputs of the national and international GPs identified through VIOLET, and by presenting successful examples of energy efficiency interventions in heritage buildings, CEA supported the New Directive and presented its suggestions for the local amendments during the 4<sup>th</sup> local CoP meeting [Figure 11]. The members of the CoP supported the suggestions and provided valuable feedback. After the 4<sup>th</sup> CoP meeting and before the participation to the Consultations, a prep-work took place between September 2018 and May 2019, in order to identify suitable opportunities and willingness of the competent Departments. More info is provided in [Annex III](#).



*Figure 11: Aggregate CoP meeting for the Action Plan and the EPBD amendments. Lefkosia, Cyprus, June 2019.*

## Implementation of Action 1

After the feedback from the Competent Departments and identifying where there is ‘room for improvement’, CEA searched for opportunities to transpose VIOLET’s objectives to Policy level. The participation to the public consultation on the bill entitled **"The Regulation on the Energy Performance of Buildings (Amendment) Law of 2019"**, which took place on May 2019, was the most suitable opportunity<sup>19</sup>.

As CEA is not a Managing Authority, it was important to adequately substantiate its suggestions and present examples of Good Practice to support this. This required increased efforts and implementation of parallel actions with different key-stakeholders to ensure that the amendment proposals will be taken into consideration. The fact that from VIOLET’s early stages, CEA was in contact with the Energy Service, the responsible for the EPBD’s implementation and thus the MA, ensured that the proposals will be taken into consideration.

More specifically, the Energy Service participates in the local CoP, and its representative is the local Energy Ambassador for the project. The representative also participated in the local WISE events, at bilateral meetings and staff exchanges in Germany and Cyprus [Figures 12 and 13], which was very beneficial, as it increased his acceptance towards the new suggestions.

<sup>19</sup> It is noted that before these consultations, CEA also participated to the consultations for the Regulations on the Energy Performance of Buildings [March 2019].



*Figure 12: 2<sup>nd</sup> Project Meeting in Cyprus. CEA organised the Project Meeting in combination with the local CoP meeting for exchanging expertise. Mr Nicos Hadjinikolaou, the Energy Ambassador, presented the local framework for the EPBD to the consortium - Lefkosia, Cyprus, September 2017.*



*Figure 13: 3<sup>rd</sup> Project Meeting in Germany. CEA participated with 2 key-stakeholders. Mr Nicos Hadjinikolaou, the Energy Ambassador, was one of them - Schwäbisch Gmünd, Germany, May 2018.*

The proposals which were submitted by CEA, were based on the regional and interregional activities of VIOLET, and mostly concerned the Annex II 'Categories of buildings exempted from the obligation to meet the minimum energy performance requirements and the issuance of a building energy performance certificate'. More info is provided in [Annex VI](#).

In specific, the proposals concerned the approach for heritage buildings under protection [listed buildings and ancient monuments], which are currently excluded from both, the minimum energy performance requirements and the issuance of Energy Performance Certificates [EPCs]. It was suggested that the exemption for the EPC issuance should not be applied for these heritage buildings when they will be restored, sold, rented, or if they



are public buildings. This proposal had as an aim to create an EPC data base and to increase the knowledge regarding the energy efficiency of heritage buildings, as this was a barrier that was recognised through the regional CoP meetings.

In addition, for the case of listed buildings or ancient monuments [protection status], it was proposed that the exception of meeting the minimum energy efficiency requirements, during restoration/renovation phase, to be only applied if the Director of the Town Planning and Housing Department, or the Director of the Antiquities Department, or the Competent Local Authority -where applicable-, certify that this action will unacceptable alter their nature, or their appearance. This was very important as the requirement for an official confirmation from the Competent Departments is not included in the current Law<sup>20</sup>. This 'gap' on the current legislation, seemed to be used as a reasoning for not implementing any energy efficient measure.

The above proposals, with the exemption of the requirement for EPC issuance during the restoration phase, **were incorporated by the Energy Service to the draft version of the Regulation** and are currently to the Legal Service for legal scrutiny. It will then send to the Cabinet for approval and then to the Parliament for voting. The new Law will be released within March 2020.

This is the first step for a policy change in regards the energy efficiency of heritage buildings. The new Law with the relevant amendments, is expected to increase the available data on this field, providing the opportunity for setting specific requirements for heritage buildings. This can be the establishment of minimum technical requirements, or compliance with a specific Rate on the EPC, which in turn, will regulate the specific market (i.e. new compatible materials and/or technical solutions).

---

<sup>20</sup> Currently as mentioned in the Regulation of the Energy Performance of Buildings (Amendment) Act 2017 Annex II for exemptions: Buildings declared as listed, according to the 'Building Conservation Law', or declared as ancient monuments according to the 'Antiquities Law', provided that compliance with the requirements of this Law would substantially alter their character this is at the discretion of the Director of the 'Town Planning and Housing Department', or the Director of the Department of Antiquities, respectively."

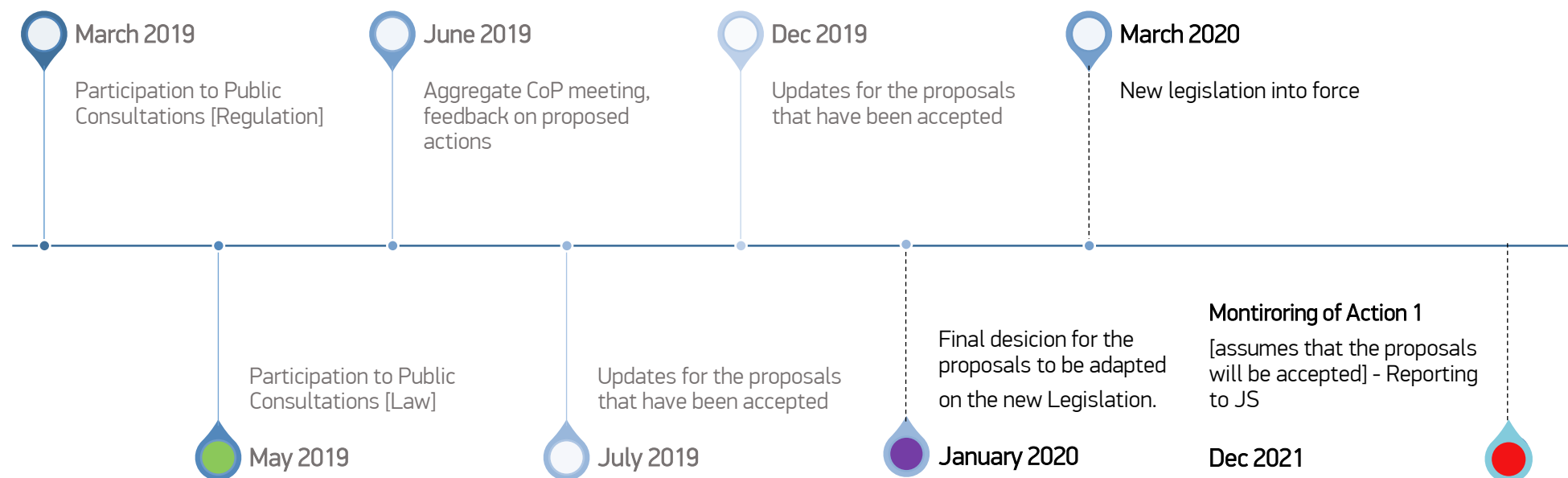
## Stakeholders involved

Name of Organisation / person	Role in Action Plan
<b>Cyprus Energy Agency</b>	<b>Project Manager [Consortium Partner]</b>
<b>Managing Authority for policy instrument Energy Service [Ministry of Energy, Commerce, Industry and Tourism]</b> Nicos Hadjinicolaou - Energy Ambassador	EPBD amendments Changes on the current respective Policy level. Support the development as well as implementation and monitoring of the Action Plan; Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.
<b>Preservation Sector, Town Planning and Housing Department [Ministry of Interior]</b> Kyriaki Trypiniotou Kalava	Changes on the current respective Policy level. Support the development and the implementation of the Action Plan; Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings. <i>Listed Buildings</i>
<b>Department of Antiquities [Ministry of Transport, Communications and Works]</b> Lena Pissarides	Changes on the current respective Policy level. Support the development and the implementation of the Action Plan; Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings. <i>Ancient Monuments</i>
<b>Local Authorities, Nicosia Municipality</b> Costas Mavrokordatos	Support the development and the implementation of the Action Plan in specific areas. <i>Areas of Special Character</i>
<b>Town Planning and Housing Department [Ministry of Interior] *</b>	Support the implementation of the Action Plan. <i>Traditional Lodgings</i>
<b>Deputy Ministry of Tourism *</b>	Support the implementation of the Action Plan. <i>Traditional Lodgings</i>
<b>Department of Public Works [Ministry of Transport, Communications and Works]</b> Katerina Pantazi	Support the implementation of the Action Plan.
<b>Antonia Theodosiou [Architect, Environmental Engineer, expert on buildings' restoration]</b> Member of ICOMOS Cyprus and of the Federation of Environmental Organisations of Cyprus	Support the development as well as implementation and monitoring of the Action Plan; Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.
<b>Cyprus Scientific and Technical Chamber *</b>	Building Capacity, raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.

<b>Federation of Associations of Building Contractors Cyprus</b> Constantinos Constantinou	Building Capacity, raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.
<b>Cyprus Architectural Heritage Organization</b> Meletis Apostolides	Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.
<b>ICOMOS Cyprus - International Council on Monuments and Sites, UNESCO</b> Christos Kyriakou	Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.
<b>Cyprus University, Architecture Department</b> Aimilios Michael & Maria Philokyprou & Stavroula Thravalou	Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.
<b>Frederick University &amp; president of the IET Cyprus Local Network Committee</b> Alexis Polykarpou	Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.
<b>Cyprus University of Technology</b> Andreas Dionysiou	Raising awareness and disseminating information on the specific theme of energy efficiency in heritage buildings.
<b>Cyprus Architects Association*</b>	To be informed for the Policy Change.
<b>Mechanical &amp; Electrical Contractors Association of Cyprus</b>	To be informed for the Policy Change.
<b>Association of Mechanical &amp; Electrical and Energy Consulting Engineers</b>	To be informed for the Policy Change.
<b>Qualified Experts for the Energy Performance Certificate Issuance</b>	To be informed for the Policy Change.
<b>Experts/ professionals on the restoration of traditional buildings and energy efficiency</b>	To be informed for the Policy Change.
<b>Directorate General for European Programmes, Coordination and Development [DG EPCD]</b> Litsa Kastanou & Odysseia Charalambous	Senior Officer & Coordinating officer of the Regional Operating Programme [respectively]. To be informed about Action Plan's results; To include relevant actions in the next PP.
<b>Directorate General for European Programmes, Coordination and Development [DG EPCD]</b> Marilena Ayiomamitou	Officer, NCP (National Contact Point) for Interreg Europe To be informed about Action Plan's results.

*\* Do not have appointed representatives at the local CoP.*

## Timeframe



## Costs

Regard the staff cost/man-hours declared through VIOLET project - No further actions are needed for Phase 2. Action 1 has already been implemented.

## Funding Sources

85% from the ERDF through VIOLET project, 15% from own funding sources - No further funding is needed in Phase 2. Action 1 has already been implemented.

## ACTION 2: Issuance of Energy Performance Certificates for heritage buildings

*This Action has already been implemented during Phase 1 of the project.*

### Specific Indicator

Issuance of at least 15 Energy Performance Certificates for selected heritage buildings.

### Link to the policy instrument addressed

During VIOLET's implementation one of the biggest challenges it was the uncertainty in regards the energy performance of heritage buildings compared to the average building stock but also to the new buildings, which are in compliance with the current energy standards. It was well known that with the incorporation of passive strategies and bioclimatic design, heritage buildings are performing better when compared to the average building stock, but it was not quantified in terms of energy consumption or against the new standards. Since there is no obligation for the issuance of EPCs for heritage buildings, even if energy measures were adapted, there was no information on the impact of these measures and their feasibility.

Therefore, during the 1<sup>st</sup> Phase of the Project and to support both the proposals made for the local EPBD amendment and the National Action Plan for VIOLET, it was deemed necessary to develop an indicative baseline for the energy performance of heritage buildings. This is very important for the scopes of VIOLET at local level, since there is no indicative database at this moment. All the involved authorities [Energy Services, Preservation Sector, Antiquities Department], have stated that if this would happen, showing actual results, it will help at boosting the policy change. The CoP members actively supported this initiative [Figure 14].



*Figure 14: Local CoP meeting and staff exchange with Middelburg. The results from the Energy Performance Certificates for 14 heritage buildings were presented - Lefkosia, Cyprus, December 2019.*



## Implementation of Action 2

During the 3<sup>rd</sup> year of the project [July 2019], this action was initiated. CEA prepared the call for tenders for the issuance of official EPCs with suggestions for further energy improvements for 15 heritage buildings. This initiative was taken by CEA, with the opportunity of VIOLET and the contribution of many CoP members and especially of Ms Antonia Theodosiou<sup>21</sup> who, along with CEA, validated and finalised the list with the selected buildings, based on pre-defined criteria as follows:

- geographic dispersion of buildings in all climatic zones of Cyprus [Figure 15]
- inclusion of public buildings and private buildings [different uses]
- inclusion of buildings with a variety in sizes
- inclusion of buildings which are under protection status or not
- inclusion of buildings which have, and have not, implemented energy upgrade measures
- inclusion of buildings with variation in construction techniques
- owner's intention to cooperate [access to information]
- architect's intention to cooperate [access to information]

The final list included 5 residential buildings which have been restored with no energy efficiency criteria, 3 residential buildings which were restored with energy efficiency measures, and 7 public buildings<sup>22</sup> [school, museum, community offices, cultural centre, library and hotel], which were restored with, or without, energy efficiency measures.

The call for EPCs and for suggestions for the improvement of the buildings' energy performance, had as a result the quantification of their energy performance. Reverse scenarios, meaning the study of scenarios which will compare a typical restoration against restorations which adapted energy savings measures, will be applied for some of the buildings as a next step to quantify the impact of the implemented actions [action included in PHASE 2]. In this way, an assessment of indicative actions that can be implemented for upgrading the energy efficiency of heritage buildings will be established.

These EPCs have already submitted to the national database of EPCs and can be used for reference purposes [Figures 16 -18]. The members of the CoP have been informed for the results, and they had the opportunity to discuss the next steps in regards the extension of this database with more EPCs of heritage buildings. It was agreed that if the new legislation adopts the suggested proposals [mentioned in Action 1], the growing number of EPCs, will help to introduce, promote and adopt actions for energy efficiency in historic buildings in all the relevant Departments - each on their own aspect and jurisdiction. CEA is also convinced that the EPCs will contribute significantly to the amendment of the legislation while boosting the implementation of the Actions included in the National Action Plan for the energy efficiency of heritage buildings.

---

<sup>21</sup> Architect, Environmental Engineer with expertise on restorations. Member of the local CoP [also member of the Cyprus' ICOMOS and the Cyprus' Environmental Federations].

<sup>22</sup> One was later retracted due to external factors.



Κατηγορία Α

- Άγιος Ανδρέας
- Πάνω Λεύκαρα
- Άγιοι Ορσολαγίτες
- Πέρα Ορεινής
- Άλωνα

Κατηγορία Β

- Βάσα
- Καίμακλι
- Πάνω Αρόδες

Κατηγορία Γ

- Τμήμα Πολιτισμού και Οικήσεως
- Pancrepian Museum of Social and Education History
- Πέρα Ορεινής
- Ψιμολόφου
- Λευκωσία
- The Library Hotel & Wellness Resort
- Άγιος Ανδρέου



Figure 15: Geographic dispersion of selected heritage buildings per category.

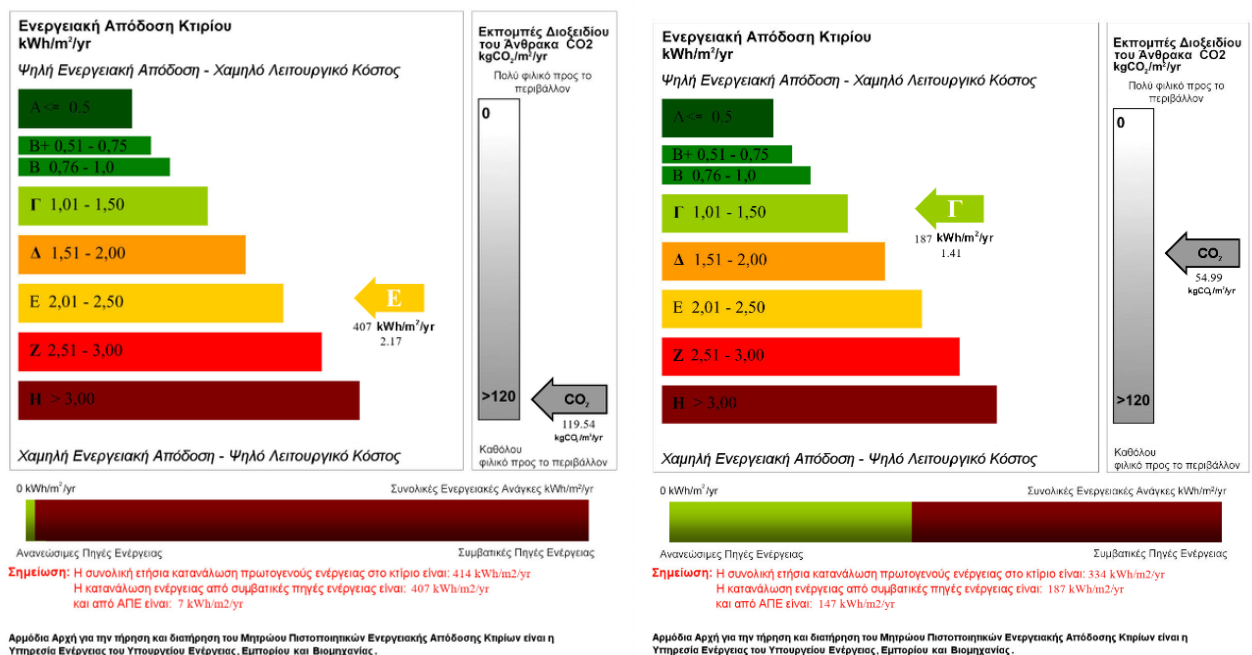


Figure 16: Left: Energy performance certificate of a private residential building in Lefkara without energy efficiency measures. Right: Energy performance certificate of a private residential building in Arodes with energy efficiency measures



Εκδίδεται βάσει Κ.Δ.Π 164/2009 & Κ.Δ.Π 39/2014

MODECSOFT ECO-engine v.2 (SBEMcy v3.4.a)

## ΠΙΣΤΟΠΟΙΗΤΙΚΟ ΕΝΕΡΓΕΙΑΚΗΣ ΑΠΟΔΟΣΗΣ ΚΤΙΡΙΟΥ

Πολιτιστικό Κέντρο στην Παλλουριώτισσα  
Αγίου Ανδρέα 7

Φ/ΣΧ.: 21/470104 ΤΜΗΜΑ: 1 ΤΕΜΑΧΙΟ: 536

Ταχ.Κώδικας: 1100  
Επαρχία: Λευκωσία  
Δήμος/Κοινότητα: Δήμος Λευκωσίας  
Κατηγορία έργου: Μη Κατοικία  
Η πιστοποίηση έγινε: Μετά την κατασκευή  
Αριθμός Πιστοποιητικού: 26121003151005811701  
Ημερομηνία έκδοσης: 26-09-2019  
Ισχύς πιστοποιητικού μέχρι: 26-09-2029

Το παρόν πιστοποιητικό αποτελεί μια ένδειξη της Ενεργειακής Απόδοσης για το συγκεκριμένο κτίριο. Περιλαμβάνει την κατανάλωση ενέργειας για σκοπούς θέρμανσης και ψύξης του κτιρίου, για παραγωγή ζεστού νερού χρήσης, για εξαερισμό, για φωτισμό του κτιρίου, υπολογισμένα βάσει της συνήθους χρήσης του κτιρίου. Η Ενεργειακή Απόδοση του κτιρίου εκφράζεται ως η πρωτογενής ενέργεια που καταναλώνεται ανά τετραγωνικό μέτρο ωφέλιμης επιφάνειας πατώματος ανά έτος (kWh/m<sup>2</sup>/yr).

Στοιχεία Ειδικευμένου Εμπειρογνώμονα

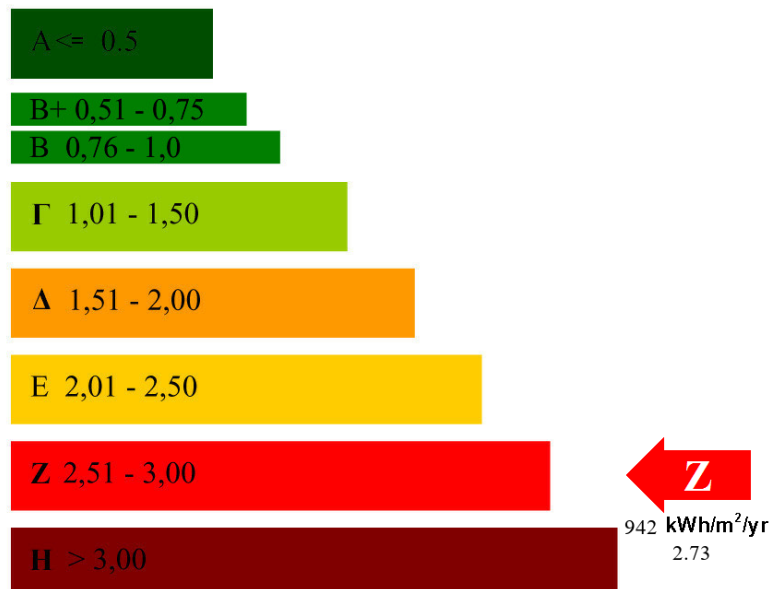
Όνομα: Στέλιος Αγαθοκλής  
Αρ. Εγγραφής στο Μητρώο: ΑΒΧΧ 100315



ΥΠΟΥΡΓΕΙΟ  
ΕΝΕΡΓΕΙΑΣ  
ΕΜΠΟΡΙΟΥ &  
ΒΙΟΜΗΧΑΝΙΑΣ

### Ενεργειακή Απόδοση Κτιρίου kWh/m<sup>2</sup>/yr

Ψηλή Ενεργειακή Απόδοση - Χαμηλό Λειτουργικό Κόστος



Χαμηλή Ενεργειακή Απόδοση - Ψηλό Λειτουργικό Κόστος

0 kWh/m<sup>2</sup>/yr Συνολικές Ενεργειακές Ανάγκες kWh/m<sup>2</sup>/yr



Ανανεώσιμες Πηγές Ενέργειας

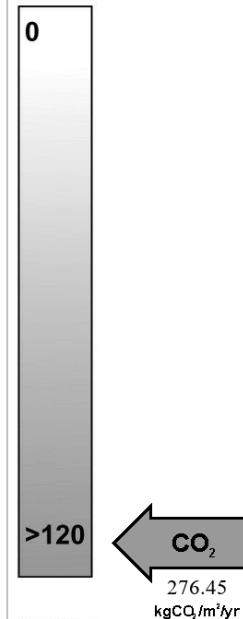
Συμβατικές Πηγές Ενέργειας

**Σημείωση:** Η συνολική ετήσια κατανάλωση πρωτογενούς ενέργειας στο κτίριο είναι: 942 kWh/m<sup>2</sup>/yr  
Η κατανάλωση ενέργειας από συμβατικές πηγές ενέργειας είναι: 942 kWh/m<sup>2</sup>/yr  
και από ΑΠΕ είναι: 0 kWh/m<sup>2</sup>/yr

Αρμόδια Αρχή για την τήρηση και διατήρηση του Μητρώου Πιστοποιητικών Ενεργειακής Απόδοσης Κτιρίων είναι η Υπηρεσία Ενέργειας του Υπουργείου Ενέργειας, Εμπορίου και Βιομηχανίας.

### Εκπομπές Διοξειδίου του Άνθρακα CO<sub>2</sub> kgCO<sub>2</sub>/m<sup>2</sup>/yr

Πολύ φιλικό προς το  
περιβάλλον



Καθόλου  
φιλικό προς το περιβάλλον

Figure 17: Energy performance certificate of a public building [cultural centre] in Lefkosia without energy efficiency measures



## ΠΙΣΤΟΠΟΙΗΤΙΚΟ ΕΝΕΡΓΕΙΑΚΗΣ ΑΠΟΔΟΣΗΣ ΚΤΙΡΙΟΥ

Κοινοτικό Γραφείο 1 Πέρα Ορεινής  
Ζουβανάκη 4

Φ/ΣΧ.: 30/1227V01 ΤΜΗΜΑ: 1 ΤΕΜΑΧΙΟ: 185  
Ταχ.Κώδικας: 2650  
Επαρχία: Λευκωσία  
Δήμος/Κοινότητα: Πέρα  
Κατηγορία έργου: Μη Κατοικία  
Η πιστοποίηση έγινε: Μετά την κατασκευή  
Αριθμός Πιστοποιητικού: 32001003151005812101  
Ημερομηνία έκδοσης: 26-09-2019  
Ισχύς πιστοποιητικού μέχρι: 26-09-2029

Το παρόν πιστοποιητικό αποτελεί μια ένδειξη της Ενεργειακής Απόδοσης για το συγκεκριμένο κτίριο. Περιλαμβάνει την κατανάλωση ενέργειας για σκοπούς θέρμανσης και ψύξης του κτιρίου, για παραγωγή ζεστού νερού χρήσης, για εξαερισμό, για φωτισμό του κτιρίου, υπολογισμένα βάσει της συνήθους χρήσης του κτιρίου. Η Ενεργειακή Απόδοση του κτιρίου εκφράζεται ως η πρωτογενής ενέργεια που καταναλώνεται ανα τετραγωνικό μέτρο ωφέλιμης επιφάνειας πατώματος ανά έτος (kWh/m<sup>2</sup>/yr).

Στοιχεία Ειδικευμένου Εμπειρογνώμονα

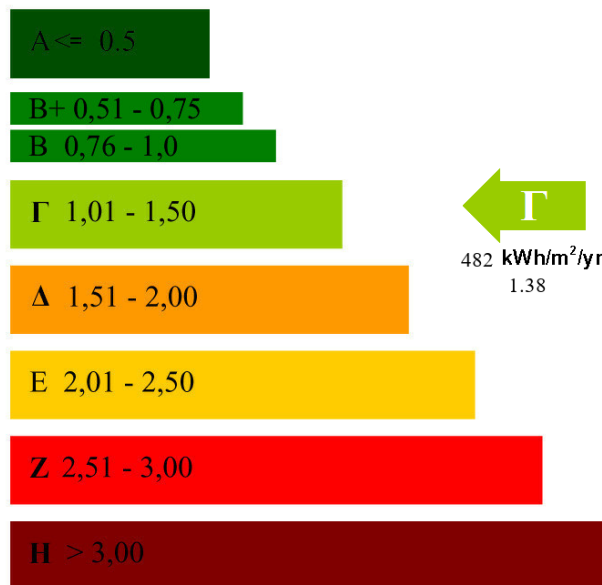
Όνομα: Στέλιος Αγαθοκλής  
Αρ. Εγγραφής στο Μητρώο: ΑΒΧΧ 100315



ΥΠΟΥΡΓΕΙΟ  
ΕΝΕΡΓΕΙΑΣ  
ΕΜΠΟΡΙΟΥ &  
ΒΙΟΜΗΧΑΝΙΑΣ

### Ενεργειακή Απόδοση Κτιρίου kWh/m<sup>2</sup>/yr

Ψηλή Ενεργειακή Απόδοση - Χαμηλό Λειτουργικό Κόστος



Χαμηλή Ενεργειακή Απόδοση - Ψηλό Λειτουργικό Κόστος

0 kWh/m<sup>2</sup>/yr Συνολικές Ενεργειακές Ανάγκες kWh/m<sup>2</sup>/yr



Ανανεώσιμες Πηγές Ενέργειας

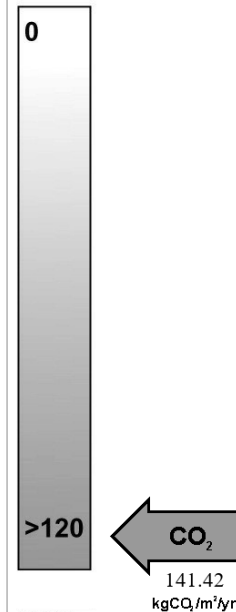
Συμβατικές Πηγές Ενέργειας

**Σημείωση:** Η συνολική ετήσια κατανάλωση πρωτογενούς ενέργειας στο κτίριο είναι: 482 kWh/m<sup>2</sup>/yr  
Η κατανάλωση ενέργειας από συμβατικές πηγές ενέργειας είναι: 482 kWh/m<sup>2</sup>/yr  
και από ΑΠΕ είναι: 0 kWh/m<sup>2</sup>/yr

Αρμόδια Αρχή για την τήρηση και διατήρηση του Μητρώου Πιστοποιητικών Ενεργειακής Απόδοσης Κτιρίων είναι η Υπηρεσία Ενέργειας του Υπουργείου Ενέργειας, Εμπορίου και Βιομηχανίας.

### Εκπομπές Διοξειδίου του Άνθρακα CO<sub>2</sub> kgCO<sub>2</sub>/m<sup>2</sup>/yr

Πολύ φιλικό προς το  
περιβάλλον



Καθόλου  
φιλικό προς το περιβάλλον

Figure 18: Energy performance certificate of a public building [offices] in Pera Oreinis with energy efficiency measures



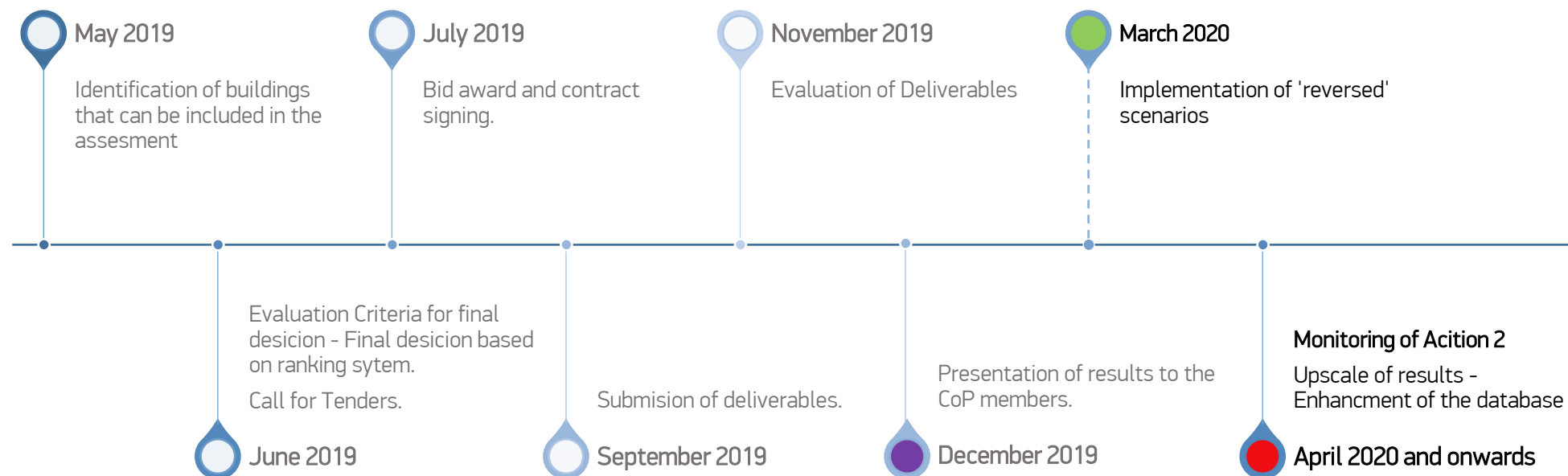
## Stakeholders involved

Name of Organisation / person	Role in Action Plan
<b>Cyprus Energy Agency</b>	<b>Project Manager [Consortium Partner]</b>
Managing Authority for policy instrument Energy Service [Ministry of Energy, Commerce, Industry and Tourism] Nicos Hadjinicolaou - Energy Ambassador	Responsible Department for the EPC's archive and the relevant legislation.
<b>Qualified Experts for the Energy Performance Certificate Issuance *</b>	External Expert – Assessment of the selected buildings and issuance of EPCs.
<b>Preservation Sector, Town Planning and Housing Department [Ministry of Interior]</b> Kyriaki Trypiniotou Kalava	Provision of information for a building to be included for EPC issuance. <i>Listed Buildings</i>
<b>Department of Antiquities [Ministry of Transport, Communications and Works]</b> Lena Pissarides	Provision of information for a building to be included for EPC issuance. <i>Ancient Monuments</i>
<b>Local Authorities, Nicosia Municipality</b> Costas Mavrokordatos	Provision of information for a building to be included for EPC issuance. <i>Areas of Special Character</i>
<b>Antonia Theodosiou [Architect, Environmental Engineer, expert on buildings' restoration]</b> Member of ICOMOS Cyprus and of the Federation of Environmental Organisations of Cyprus	Evaluation of criteria for buildings selection. Provision of information for buildings to be included for EPC issuance.
<b>Experts/ professionals on the restoration of traditional buildings and energy efficiency *</b>	Provision of information for buildings to be included for EPC issuance.

\* Not direct members of the local CoP.



## Timeframe



## Costs

- a) **5,725 €** [VAT included] for 14 EPCs, already covered through VIOLET project - No further actions are needed for Phase 2.
- b) **1,000 €** staff cost are required for the reversed scenarios for selected heritage buildings – Minor actions are needed for Phase 2.

## Funding Sources

- a) 85% from the ERDF through VIOLET project, 15% from own funding sources - No further funding is needed in Phase 2.
- b) Own Funding will be used for the minor actions included in Phase 2.



*The following actions aim to cover territorial needs that have been identified through VIOLET's implementation. They are complementary to the first two, and they have been recognised as high priorities for the local Action Plan.*

*The proposed Actions [3-4] will be implemented during the 2<sup>nd</sup> Phase of the project as their ultimate purpose is to support the implementation and monitoring of the proposed change on the policy instrument addressed, which is interlinked with the change of the relevant legislation (EPBD). The change of the legislation is expected to bring substantial variations to the current process followed for the restoration and/or the renovation of heritage buildings, but also to the national strategy for the renovation of the building stock.*

*CEA, with the support of the local CoP, has selected the following actions in order to adequately support this change. All the material and expertise acquired from VIOLET's implementation during the 1<sup>st</sup> Phase will be taken into advantage for the implementation of these actions.*

*It is noted that Actions 3 and 4, were also common priorities/solutions at a consortium level, therefore the outputs can be utilized from the project partners.*



### ACTION 3: Issuance of Guidebook for the energy upgrade of heritage buildings

*This will be implemented during the 2<sup>nd</sup> phase of the project.*

#### Indicator

- a) Preparation of 1 Guidebook with subject the Energy efficiency of heritage buildings [adjusted to local level]
- b) At least 200 individual downloads of the e-Guidebook by 2021

#### Link to the policy instrument addressed

Both the local CoP meetings and the Project Meetings [PMs] of VIOLET revealed that a policy change was not easy to be established if the ‘ground was not prepared’ with the Competent Authorities and the professionals of the field, especially in the cases where the partners were not a MA. During the identification of solutions to address the challenges of energy upgrading heritage buildings, an unanimous decision was the creation of a Guidebook, which will include cumulatively all the necessary info around this topic [\[Annex IV\]](#).

The significance of creating a document which will provide guidance and clarifications, was also evident from the first stages of the project’s implementation at consortium level. For that reason, relevant existing guidebooks, tools and standards, not only from partners’ countries, were presented as Good Practises through various PMs and staff exchange activities. In addition, numerous study visits highlighted the need for gathering all the experience and the existing knowledge into one document, providing a solid background for the energy upgrade of heritage buildings.

For the National Action Plan, which is oriented around the amendments of the EPBD (national legislation), a guidebook was deemed as beneficial since it will reduce the level of hesitation and uncertainty for all the changes that will take place. The Guidebook will also decrease the adjustment time needed for the smooth implementation of the new legislation while providing new ideas and possible solutions for energy interventions in heritage buildings.

At this point, it should be noted that the Competent Departments upon the changes on the legislation, especially when new requirements and procedures are introduced, they release Guidebooks/Handbooks in order to simplify the transition. Examples are the Guidebook for increasing the number of Nearly Zero-Energy Buildings [NZEBS]<sup>23</sup> from the Energy Service and the Guidebook on the Preservation of Listed Buildings from the Preservation Sector<sup>24</sup>. Nonetheless, for these documents to be released from centralised level (government), usually require significant amount of time to be prepared and they are published with significant delays, which opposes the value of actually having a Guidebook during a policy change. Moreover, as the Guidebooks are usually distributed as printed documents, they cannot include regular updates or adjustments, which increases the possibilities to be considered as outdated and not be used.

For the policy change included in the Action Plan, it was considered very important to have this document as an e-document in order to be adjusted at a real time, but also to be able to be distributed through the media of various Competent Departments, since this topic (as described above) does not fall under the jurisdiction of only one Department. Another very important aspect is for this Guidebook to be based on double expertise, therefore if only one Department was going to have the responsibility for the Guidebook it was necessary to be adequately

---

<sup>23</sup> 2<sup>nd</sup> National Plan for increasing the number of nearly zero-energy buildings (NZEBS) in accordance with article 5a of the Regulation of the Energy Performance of Buildings Laws of 2006 to 2017. Available: <https://bit.ly/3cyY5wU> [GR].

<sup>24</sup> Handbook on Listed Buildings. Available: <https://bit.ly/39qTmeN> [GR].



staffed. Nonetheless, the lack of double expertise on the relevant Departments, it was a barrier that was identified since the beginning of the project. CEA was identified as the best option to coordinate this action and to take the responsibility for the Guidebook, cooperating with all the relevant Departments and key-stakeholders, taking into advantage its in-house double expertise. With this approach, the production time of the Guidebook will be reduced, following the amendments on the legislation [Action 1 of the Action Plan] and by being prepared on an e-format, would make the distribution significantly easier. It is noted that CEA will have the responsibility of the Guidebook, also outside of VIOLET's scope (ie. after 2021), since the Guidebook is expected to be used as a point-of-reference, for at least few years.

### Implementation of Action 3

As described before, this topic is still surrounded by high uncertainty and the existing policy framework, is very complex. At national level, there are some pilot implementations and easy to apply practises and incentives that can be taken into advantage, but they are still not well-known for the broader audience, both for professionals and building owners. CEA identified various ways for the creation of the Guidebook, in order to take into advantage, the national context and opportunities, but also to ensure that the Guidebook will be realised within a realistic framework and will be based on the actual needs.

As a first approach, inspiration was drawn from the Romanian GP '*Guidebook, Architectural Guidelines on protection and preservation of local architectural features in Dobrogea rural areas/subregions: Lower Dobrogea, Central Dobrogea and Macin Mountains, and Danube Delta*', which was presented by the Lead Partner SE RDA during the EU WISE event in October 2018 [Figure 19]. The 'Du-Mo' tool, which maps the sustainability in combination with the historic value of the building, and the 'Responsible Retrofit Guidance Wheel' tool, which has been designed to clearly identifying different benefits and concerns, by referencing the most relevant and accurate information [Figures 20 and 21], were also studied for further ideas and actions at local level. It is noted that the first concerns a GP from Netherlands, and the second a GP from France [consortium partners].

As a general idea the Guidebook will be utilizing all the existing knowledge and practises, mainly at local level [Figure 22], and will concentrate all the information providing an indicative framework<sup>25</sup>. It will help prevent conflicts between the energy efficiency requirements in the regulations and the conservation of historic and traditionally constructed buildings. Among the suggestions for the Guidebook's contents it was also the reference to Good Practises, standards and tools on European Level. Even if the initial proposal was to create a Technical Guidebook, such as the one of Historic England (UK)<sup>26</sup>, which was introduced to VIOLET consortium during the Energy Transition Event in Florence (2018), it was deemed more suitable to prepare a general Guidebook.

---

<sup>25</sup> Currently at local level there are some general guidelines for heritage buildings under protection status, which concern the installation of fans for enhancing natural cooling, the correct placement of solar thermal panels (on buildings' extensions), and the suitable way to hide the HVAC systems in case those are required. Nonetheless, those are mainly based on empirical and not quantitative data, therefore they cannot be considered as representative for restorations with energy efficiency criteria.

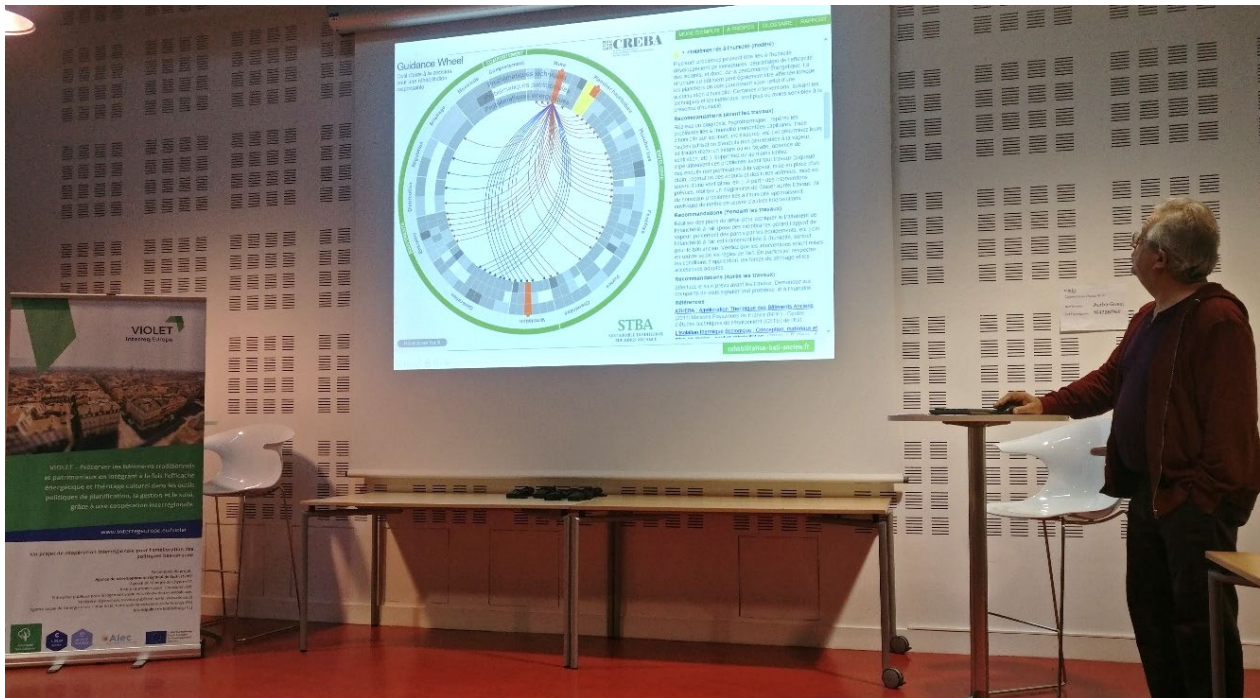
<sup>26</sup> Series of publications titled: '*Energy efficiency and Historic Buildings*'.



*Figure 19: Presentation of Good Practises from partners' countries during the EU WISE Event in Seville - Spain, October 2018.*



*Figure 20: Presentation of the SUMO [or DUMO] tool from a stakeholder form Netherlands. EU WISE Event - Seville, Spain, October 2018.*



*Figure 21: Presentation of the Responsible Retrofit Guidance Wheel tool from a stakeholder from France. 6<sup>th</sup> Project Meeting - Bordeaux, France, October 2019.*



*Figure 22: Study visit during the CoP meeting and the staff exchange with Middelburg on the site of an Ancient Monument which is currently under restoration with energy efficient criteria - Pera Oreinis, Cyprus, December 2019.*



The reason for deciding not to make it a Technical Guidebook it was the fact that every case is unique and therefore, standardised solutions cannot be provided. The idea it is to create a general document that can be used on voluntary basis and motivate owners and professionals to search for ways to improve the energy performance of heritage buildings<sup>27</sup>. The Competent Departments can also use the Guidebook as a reference when examining applications for building permits or when want to adjust their Technical Terms for each application. At the same time the guidebook should provide an index with relevant approaches to selected from and places where they can find more information. It can also include references or outputs from the local research, in an effort to combine it with the projects implemented, reducing the existing gap.

CEA took into advantage the last CoP meeting (December 2019), to discuss with all the key-stakeholders, about the possible contents of this Guidebook. Even if those are not considered as final, the prevailing suggestions were:

- Division of the Guidebook in 4 main thematic:
  - Passive Strategies and ways of management
  - Energy Systems, RES and new technologies
  - Traditional and modern construction materials
  - User behaviour and effects on building's performance
  - Microclimate and impact on users' comfort

Other suggestions included:

- Reference to local research results and relevant publications
- Available incentives at national level
- Competent Departments and relevant legislations/regulations
- Approaches for public and private heritage buildings
- Approaches for traditional settlements

In regards the Guidebook's distribution, this will be through various channels as it will be on e-format (as described above). CEA's channels will be used for disseminating the Guidebook, whereas a permalink will be established on CEA's webpage. At the same time, the Competent Departments, such as the Energy Service, the Preservation Sector and the Antiquities Department, or Local Authorities, can use their channels for distributing the Guidebook. Other key-stakeholders, such as the Cyprus Scientific and Technical Chamber, the Federation of Associations of Building Contractors Cyprus, the ICOMOS Cyprus and the Cyprus Architectural Heritage Organization can also distribute the Guidebook, upon their events or internal meetings.

The Guidebook will be also combined with the Interdisciplinary Seminar [courses] for professional training [Action 4] and with other relevant national events to reach more interested parties. Identified Target Groups are the Professionals (Architects and Engineers) involved in building's restoration, professionals dealing with energy retrofitting, RES installation, Qualified Experts for the EPCs issuance, Local Authorities, employees of the Competent Departments, University students on relevant courses and other people interesting on the topic. An on-going cooperation with CoP members is required in order to ensure that the Guidebook will be distributed to the highest possible level. Lastly, upon the finalization and the release of the Guidebook, the approach followed will be communicated to the consortium upon their interest, in order to replicate it.

The impact of the Guidebook will be measured in cooperation with the Competent Departments in regards the applications submitted for the restoration of heritage buildings which include energy efficiency measures. It will also be determined upon the interest of the target groups to know more about the Guidebook and the purposes of using it.

---

<sup>27</sup> It will not be limited to listed buildings or ancient monuments which are under the protection status.

## Stakeholders involved

Name of Organisation / person	Role in Action Plan
<b>Cyprus Energy Agency</b>	<b>Project Manager [Consortium Partner] Working on the Guidebook development.</b>
<b>Antonia Theodosiou [Architect, Environmental Engineer, expert on buildings' restoration]</b> Member of ICOMOS Cyprus and of the Federation of Environmental Organisations of Cyprus	Working on the Guidebook Development in cooperation with CEA. Providing relevant material.
<b>Managing Authority for policy instrument Energy Service [Ministry of Energy, Commerce, Industry and Tourism]</b> Nicos Hadjinicolaou - Energy Ambassador	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.
<b>Preservation Sector, Town Planning and Housing Department [Ministry of Interior]</b> Kyriaki Trypiniotou Kalava	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.
<b>Department of Antiquities [Ministry of Transport, Communications and Works]</b> Lena Pissarides	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.
<b>Local Authorities, Nicosia Municipality</b> Costas Mavrokordatos	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.
<b>Town Planning and Housing Department [Ministry of Interior] *</b>	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.
<b>Deputy Ministry of Tourism *</b>	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.
<b>Department of Public Works [Ministry of Transport, Communications and Works]</b> Katerina Pantazi	Provision of relevant material. Feedback on the Guidebook.
<b>Cyprus Scientific and Technical Chamber *</b>	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.

<b>Cyprus Architectural Heritage Organization</b> Meletis Apostolides	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.
<b>ICOMOS Cyprus - International Council on Monuments and Sites, UNESCO</b> Christos Kyriakou	Provision of relevant material. Feedback on the Guidebook. Distribution of the Guidebook.
<b>Cyprus University, Architecture Department</b> Aimilios Michael & Maria Philokyprou & Stavroula Thravalou	Provision of relevant material. Feedback on the Guidebook.
<b>Federation of Associations of Building Contractors Cyprus</b> Constantinos Constantinou	Feedback on the Guidebook. Distribution of the Guidebook.
<b>Cyprus Architects Association*</b>	Feedback on the Guidebook.
<b>Mechanical &amp; Electrical Contractors Association of Cyprus</b>	Feedback on the Guidebook.
<b>Qualified Experts for the Energy Performance Certificate Issuance</b>	Feedback on the Guidebook.
<b>Experts/ professionals on the restoration of traditional buildings and energy efficiency</b>	Feedback on the Guidebook.

*\* Do not have appointed representatives at the local CoP.*



## Timeframe



## Costs

- a) **11,000 €** for staff costs [includes working hours and meetings with key stakeholders] – 9 months with approximately 12 working hours per week – 2 personnel
- b) **1,500 €** for external costs [includes graphic adjustments - layout of the Guidebook]

## Funding Sources

- a) Own Funding
- b) Own Funding – Possible Additional Funding: National Funding from the Competent Departments [members of the CoP]



## ACTION 4: Interdisciplinary Seminars [courses] for professional training

*This will be implemented during the 2<sup>nd</sup> phase of the project.*

### Indicator

- a) Organization of at least 3 educational seminars for professionals on the topic of Energy efficiency of heritage buildings - with certification award
- b) Participation of at least 30 people to the seminars

### Link to the policy instrument addressed

Following Actions 1 - 3, the Interdisciplinary Seminars for professional training identified as the final Action of the national Action Plan for enhancing the change of the selected policy. From the early stages of VIOLET, it became obvious that there is lack of double expertise and many people chose not to proceed with energy efficiency measures at heritage buildings because they don't feel confident. On the other hand, there are cases where non-reversible measures were implemented in heritage buildings to improve their energy performance, resulting in the alteration of the buildings' character. This, on the long-term, can have significant impact on the preservation and conversation of the cultural heritage.

This Action will be complimentary and will follow the change of the existing legislation in regards the energy performance of buildings. The change of the legislation is expected to create a level of uncertainty among those involved with restorations of heritage buildings, since currently there are not any obligations in regards the energy efficiency of these buildings. In order to avoid interventions that will not respect the buildings' character and the principles of restoration (reversibility, compatibility etc), and at the same time to ensure that measures for improving the energy efficiency up to the highest possible level will be implemented, is necessary to provide all the tools and guidance to those involved in the process [Figure 23 a and b].

The seminars will be organised and delivered to professionals who are involved in the different stages of the restoration/renovation process. They will address aspects similar to the sections proposed in the Guidebook in order to provide an integrated approach of the topic and disseminate the Guidebook. The proposed thematic as defined through the CoP meetings are as follows:

- Passive Strategies and ways of management of heritage buildings
- Implementation of Energy Systems, RES and new technologies
- Traditional and modern construction materials
- User behaviour and effects on building's performance
- Microclimate and impact on users' comfort – its role in the traditional architecture
- Reference to local research results and relevant publications
- Available incentives at national level
- Competent Departments and relevant legislations/regulations
- Approaches for public and private heritage buildings
- Approaches for traditional settlements

All the above are expected to enhance the policy change, to increase the level of adaptation in regards the new legislation but also to provide all the necessary tools and the expertise needed for addressing the topic of energy efficiency in heritage buildings, as was inspired through VIOLET project.



*Figure 23 a and b: Construction works in heritage buildings in Schwäbisch Gmünd, Germany. The pictures were provided by local stakeholders a-priori to the study tour at the restored buildings in order to show the interventions which took place. The importance of educating professionals was stressed at the study tour since any false interventions can have catastrophic results for heritage buildings. May 2018.*

## Implementation of Action 4

During the CoP meetings it was decided that the seminars for professional training should be implemented in a timeframe relative to the change of the legislation in order to provide the maximum results. Their target is double, to preserve buildings of cultural heritage and also to upgrade them to modern standards. Material which derived through VIOLET, will be used as the basis for this training, for closing the gap between energy efficiency and Cultural Heritage.

The Competent Departments agreed that these seminars are important, and they can support them, but they are better to be implement from an educational institution. CEA, as a certified educational and testing body in cooperation with members of the CoP (especially those representing Professional Associations, Chambers and Universities), can organise these seminars within the 2<sup>nd</sup> Phase of the project, with an ultimate purpose to build capacity for the topic of energy efficiency in heritage buildings.

The seminars are expected to have a duration of 2-3 days (per seminar) and will be organised for approximately 10-20 participants per seminar. They will be based on a pre-defined timeframe in order to have the time to gather all the material, to organise the sections, identify and select the lecturers and send/publish the invitations. CEA will also pursuit to include the seminars to those of the Human Resource Development Authority of Cyprus (HRDA)<sup>28</sup> in order to increase their impact, their duration and be able to reach out to more

<sup>28</sup> "Mission of the HRDA is to create the prerequisites for planned and systematic training and development of the human potential of Cyprus at all levels and in all areas to meet the needs of the economy within the framework of the social and economic policy of the state."



Cyprus  
Energy  
Agency



people. Members of the CoP, which represent relevant Professional Associations and Universities, agreed that this will be an important measure which will enhance the VIOLET purposes and will accelerate the policy change.

Overall, CEA and members of the CoP, are convinced that as soon as the Guidebook [Action 3] will be prepared and the first seminars will be delivered [Action 4], policy measures will be promoted by individuals irrespectively of the legislation. It has been proved that once the suitable tools are provided, the common practices change, and the law comes to legislate them.

Lastly, the impact of the seminars will be measured based on the number of participants [level of interest] but also in cooperation with the Competent Departments related to the restoration proposals which are submitted for building permit.

## Stakeholders involved

Name of Organisation / person	Role in Action Plan
<b>Cyprus Energy Agency</b>	<b>Project Manager [Consortium Partner]</b> Organisation and coordination of the seminars.
<b>Antonia Theodosiou [Architect, Environmental Engineer, expert on buildings' restoration]</b> Member of ICOMOS Cyprus and of the Federation of Environmental Organisations of Cyprus	Assistance to the organisation of the professional training. Active participation.
<b>Human Resource Development Authority of Cyprus</b>	Set up of the professional training. Financing Support.
<b>Managing Authority for policy instrument Energy Service [Ministry of Energy, Commerce, Industry and Tourism]</b> Nicos Hadjinicolaou - Energy Ambassador	Support of the Professional training. Assistance to the organisation of the professional training.
<b>Preservation Sector, Town Planning and Housing Department [Ministry of Interior]</b> Kyriaki Trypiniotou Kalava	Support of the Professional training. Assistance to the organisation of the professional training.
<b>Department of Antiquities [Ministry of Transport, Communications and Works]</b> Lena Pissarides	Support of the Professional training. Assistance to the organisation of the professional training.
<b>Local Authorities, Nicosia Municipality</b> Costas Mavrokordatos	Support of the Professional training. Assistance to the organisation of the professional training.
<b>Cyprus Scientific and Technical Chamber *</b>	Support of the Professional training. Assistance to the organisation of the professional training.
<b>Cyprus University, Architecture Department</b> Aimilios Michael & Maria Philokyprou & Stavroula Thravalou	Support of the Professional training. Assistance to the organisation of the professional training.
<b>Cyprus Architectural Heritage Organization</b> Meletis Apostolides	Support of the Professional training. Assistance to the organisation of the professional training.
<b>Federation of Associations of Building Contractors Cyprus</b> Constantinos Constantinou	Support of the Professional training. Assistance to the organisation of the professional training.



**ICOMOS Cyprus - International Council on Monuments and Sites, UNESCO**

Christos Kyriakou

Support of the Professional training.  
Assistance to the organisation of the professional training.

**Frederick University & president of the IET Cyprus Local Network Committee**

Alexis Polykarpou

Support of the Professional training.

**Cyprus University of Technology**

Andreas Dionysiou

Support of the Professional training.

**Deputy Ministry of Tourism \***

Support of the Professional training.

**Department of Public Works [Ministry of Transport, Communications and Works]**

Katerina Pantazi

Support of the Professional training.

**Cyprus Architects Association\***

To be invited for participation.

**Mechanical & Electrical Contractors Association of Cyprus**

To be invited for participation.

**Association of Mechanical & Electrical and Energy Consulting Engineers**

To be invited for participation.

**Qualified Experts for the Energy Performance Certificate Issuance**

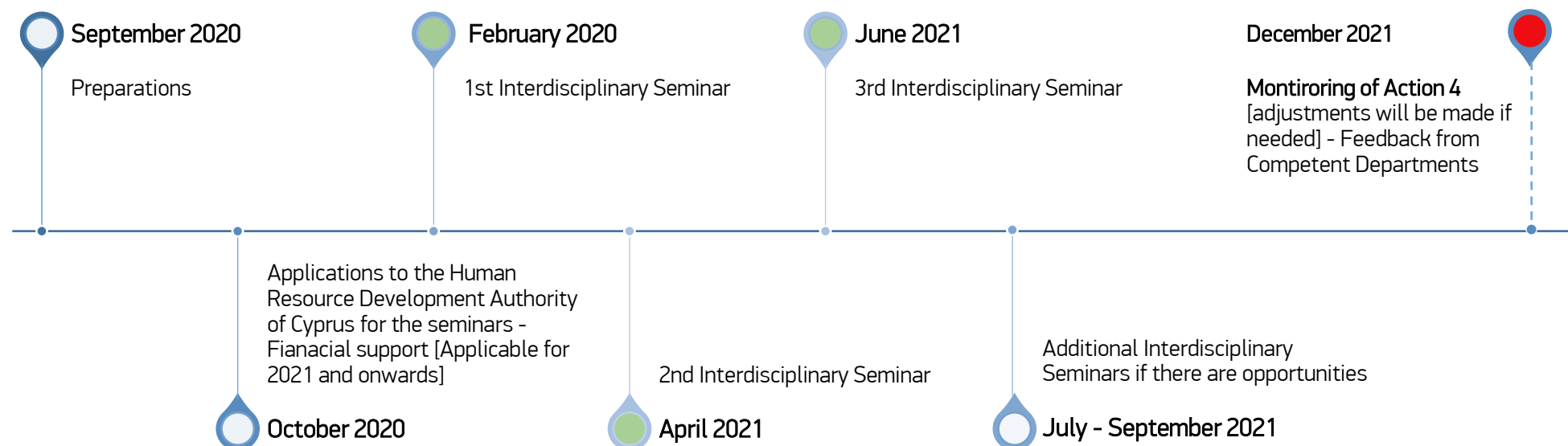
To be invited for participation.

**Experts/ professionals on the restoration of traditional buildings and energy efficiency**

To be invited for participation.

*\* Do not have appointed representatives at the local CoP.*

## Timeframe



## Costs

- a) **4,000 €** for staff costs (includes working hours for preparation and implementation of the seminars) – 50 hours preparation and at least 24 hours for the implementation, 2 personnel
- b) **3,600 €** for external costs [space rental, printings, catering for approximately 20 people per seminar] – 1,200 € per seminar

## Funding Sources

- a) Own Funding – Possible Additional Funding: European funding, through the participation to project calls - new projects for Building Capacity [ie. Erasmus+]
- b) Own Funding – Possible support on funding: From members of the CoP such as Universities, Associations, Chambers [ie. Reduced rates for using their premises]
- ⌘ Funding from the Human Resource Development Authority of Cyprus – covers part (or the whole) cost for the applicants' participation



## Overall Timeframe for Activities [PHASE 2]

	2020												2021											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
<b>ACTION 1</b>			!																					
<b>ACTION 2</b>			!																					
<b>ACTION 3</b>			!								!													
<b>ACTION 4</b>										!				!		!		!						
	preparation		monitoring										monitoring										wrap - up	

## Overall Budget for Activities [PHASE 2]

	Staff Cost [€]	External [€]	Sources
<b>ACTION 1</b>	<i>Already Implemented</i>		85% from the ERDF through VIOLET project, 15% from own funding - No further funding is needed in Phase 2
<b>ACTION 2</b>	1,000	<i>Already Implemented</i>	85% from the ERDF through VIOLET project, 15% from own funding sources Own Funding will be used for the minor actions included in Phase 2
<b>ACTION 3</b>	11,000	1,500	Own Funding Possible Additional Funding: National Funding from the Competent Departments [members of the CoP]
<b>ACTION 4</b>	4,000	3,600	Own Funding Possible Additional Funding: European funding, through the participation to project calls - new projects for Building Capacity Possible support on Funding: From members of the CoP such as Universities, Associations, Chambers & Funding from the Human Resource Development Authority of Cyprus – covers part (or the whole) cost for the applicants' participation
		<b>Total Cost:</b>	<b>€21,100</b>



## RISK ASSESSMENT AND CONTINGENCY PLANS

Through the preparation of the Action Plan, the major risks and the respective contingency plans have been identified.

Description of Risk	Level of probability (High, Medium, Low)	Impact on Action Plan (High, Medium, Low)	Description of Contingency Plan
Very limited influence to change the Policy Instrument.	Low	High	Develop good relationship with key staff members, decision-makers and the Managing Authority to highlight the benefits of the Policy change.
Proposals not approved for the legislation's amendments [EPBD adaptation].	Medium	High	The proposed activities will be implemented as planned, and emphasis will be given to the enhancement of other relevant policies but also to build capacity on this topic. <b>The first steps have already been implemented as the suggested proposals were approved by the Managing Authority – Action 1 addressed this.</b>
Potential lack of participation and uptake of the Action Plan.	Medium	High	Develop increased awareness and continue to engage a wide range of stakeholders. Detailed planning of activities to monitor the Action Plan and make adjustments accordingly.
Technical issues (lack of available data for heritage buildings, ie. Thermal coefficients).	Low	Medium	Cooperation with other parallel projects/researches aiming to address these issues. <b>Action 2 will be the basis for this.</b>
Limited available funding to implement the actions identified.	Low	High	Own Funding will be used for the most, nonetheless, to ensure the implementation of the proposed Activities CEA will try to utilize national funding and European funding in the more efficient way to establish additional support.
Involvement of many authorities/relevant bodies could cause delays or even a barrier to the implementation of the Action Plan.	Low	Medium	CEA is at the coordination of all Actions to avoid any shift from the Action Plan. Maintaining frequent contact and guidance to the involved bodies and provide updates about the project's progress is of utmost importance.
Long-time process (adjustments, regulations, legislations).	Medium	Medium	CEA will be in contact with all the Competent Departments in order to ensure a smooth transition to the new legislation. All the Competent Departments are members of the local CoP so direct contact can be made.
Lack of available technical solutions/technologies for heritage buildings	Medium	Medium	Cooperation with other parallel projects/researches aiming to address these issues. A document which concentrates all the relevant information and Good Practises can be created. <b>Action 3 will be addressing this.</b>
Lack of experts/skills in energy efficiency and traditional/historic buildings [requested to implement the suggested policy change].	Medium	Low	Inform and educate experts on the filed [long term actions]. <b>Action 4 will be addressing this.</b>



## OTHER ACHIEVEMENTS

During the 1<sup>st</sup> Phase of VIOLET which included several activities [Annex V], CEA in cooperation with its CoP, identified various relevant opportunities which took into advantage in parallel with the development of the local Action Plan for enhancing the selected policy. The following have been achieved, providing solid results for VIOLET's impact on national level:

- a) The two main national Departments<sup>29</sup> responsible for the heritage buildings, the Preservation Sector and the Antiquities Department, have adapted a new approach to the examination of applications for restoration works which include measures for increased energy performance. Previously these applications were, for the most, rejected.
- b) Proposals derived from VIOLET's outputs have been included to the National Strategic Plan for the Development of Troodos<sup>30</sup>, a mountainous area with many traditional settlements. That was the result of a study contacted by CEA in regards the energy consumption and the challenges existing in Troodos for implementing energy efficiency measures and increasing the uptake of Renewable Energy Sources [RES]. Among others, it addressed aspects related to the energy efficiency of Buildings, including heritage/vernacular buildings. More specifically, the study included the challenges for the energy upgrade of heritage buildings combined with Policy Recommendations and relevant strategies and actions that can be implemented for addressing those [ie. Virtual net-metering for RES installation at traditional settlements]. The Strategic Plan was approved, and specific national budget was assigned for all actions included in the Plan [not limited to EE and RES actions] – out of the 30 million euros allocated to the Plan, around 3.1 million euros concern this category. In addition, € 360,000 from a dedicated fund for EE and RES have been appointed for this specific category<sup>31</sup>.
- c) Inclusion of the topic 'energy efficiency of heritage Buildings', to the Priority Areas for Research, Innovation & Competitiveness of the National Governance System for Energy and Climate 2020-2030<sup>32</sup>.
- d) Finalisation and distribution of the local Good Practice [*Financial incentives for the restoration and rehabilitation of listed buildings*], through VIOLET project and inclusion in the Interreg Europe data base.

---

<sup>29</sup> The Antiquities Department has implemented energy saving measures in buildings that they are restoring. One of those has been selected for the study visit during the staff exchange with Middelburg Municipality. The Preservation sector is currently considering the case of providing additional funding for energy measures that are adapted during the restoration phase and when the direct grant-in-aid, which is provided as an incentive, reaches the maximum levels.

<sup>30</sup> The study, which was implemented between 2018-2019 and submitted in March 2019, was accepted and a relevant regional plan with allocated budget for specific actions is expected to be announced in the following months.

<sup>31</sup> The budget is yet to be divided to the specific sub-categories therefore, **it is not yet known the exact amount that will be dedicated to the energy refurbishment of heritage buildings**, which is VIOLET's objective. This will be confirmed at a later stage.

<sup>32</sup> VIOLET is also mentioned in the Actions of the 4<sup>th</sup> National energy efficiency Action Plan in the Research field of the energy upgrading of existing buildings & in the programs of the Draft Integrated National Energy and Climate Plan 2021-2030, related to energy and climate.



Cyprus  
Energy  
Agency



Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Stamp of the organisation (if available): \_\_\_\_\_



## REFERENCES

- BIOCULTURAL. (2013-2015). Implementation of Sustainable Design Elements of Vernacular Architecture in the Rehabilitation of Traditional Buildings and in the Design of New Structure. University of Cyprus.
- BIOVERNACULAR. (2012-2014). Innovative Methods for protection and conservation of sustainable design elements of Vernacular architecture in the Historic Centre of Nicosia. Research Promotion Foundation.
- Brostrom, T., Nilsen, L., & Calsten, S. (2018). The 3rd International Conference on Energy Efficiency in Historic Buildings. Visby, Sweden: Uppsala University, Department of Art Hisotry.
- Christoforou, E., Kylili, A., Fokaides, P. A., & Ioannou, I. (2016). Cradle to site Life Cycle Assessment (LCA) of adobe bricks. *Journal of Cleaner Production*, 112, 443-452.
- DIRECTIVE\_2012/27/EU. (2012). DIRECTIVE 2012/27/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC. *Official Journal of the European Union*, L 315/1 - 315/55.
- DIRECTIVE\_2018/844. (2018). DIRECTIVE (EU) 2018/844 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 30 May 2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency. *Official Journal of the European Union*(L 156/75).
- EC. (2019). *European Commission, 2030 climate & energy framework*. Retrieved October 2019, from [https://ec.europa.eu/clima/policies/strategies/2030\\_en](https://ec.europa.eu/clima/policies/strategies/2030_en)
- EFFESUS. (2016). *Energy Efficiency in European Historic Urban Districts - A practical guidance* (1st ed.). Leipzig: Fraunhofer-Center for international Management and Knowledge Economy MOEZ.
- eurostat. (2019). Final energy consumption by sector. European Commission. Retrieved 2019
- eurostat. (2019). *Smarter, greener, more inclusive? INDICATORS TO SUPPORT THE EUROPE 2020 STRATEGY - 2019 edition*. Belgium: © European Union.
- Heracleous, C., Ioannou, I., Philokyprou, M., & Michael, A. (2017). Hydrothermal Performance of a Stone Masonry Wall in a Traditional Building in Cyprus. PLEA 2017.
- Kyriakidis, A., Michael, A., Illampas, R., Champis, D. C., & Ioannou, I. (2018). Thermal Performance and Embodied Energy of Standard and Retrofitted Wall Systems Encountered in Southern Europe. *Energy*, 161, 1016-1027.
- Malaktou, E., Ioannou, I., & Philokyprou, M. (2018). Investigating the Thermal Properties of Earth-Based Materials: The Case of Adobes: Natural and Anthropogenic Hazards and Sustainable Preservation. 10th International Symposium the conservation of Monuments in the Meditteranean Basin.
- McCaig, I., Pender, R., & Pickles, D. (2018). *Energy Efficiency and Historic Buildhgs - How to improve Energy efficiencu*. Historic, England.
- Michael, A., Philokyprou, M., Thravalou, S., & Ioannou, I. (2016). The role of adobes in the thermal performance of vernacular dwellings. TERRA 2016.
- Paci, D., Panev, S., Economidou, M., Zangheri, P., Ribeiro Serrenho, T., Labanca, N., . . . Castellazzi, L. (2019). *Assessment of second long-term renovation strategies under the Energy Efficiency Directive*. Luxembuourg: Publications Office of the European Union.



- Philokyprou, M., Michael, A., Savvides, A., & Malaktou, E. (2014). Examination and Assessment of the Environmental Characteristics of Vernacular Rural Settlements in Varying Topographies in Cyprus. Barcelona.
- Philokyprou, M., Michael, A., Thravalou, S., & Ioannou, I. (2017). Thermal performance assessment of vernacular residential semi-openspaces in Mediterranean climate. *Indoor and Built Environment*, 27, 1050-1068.
- Theodoridou, M., Kyriakou, L., & Ioannou, I. (2016). PCM-enhanced Lime Plasters for Vernacular and Contemporary Architecture. *Energy Procedia*, 97, 539 – 545.
- VIOLET. (2017-2021). preserve traditional buildings through Energy reduction. Interreg Europe.
- ΕΥΕΕ. (2012). Διευκρινήσεις για την εφαρμογή του ΚΕΝΑΚ. Αθήνα: Ελληνική Δημοκρατία - Ειδική Γραμματεία Επιθεώρησης περιβάλλοντος και ενέργειας - Ειδική Υπηρεσία Επιθεωρητών Ενέργειας.
- ΤΠΟ. (2015). *Σχέδιο Επιχορήγησης Διατηρητέων Οικοδομών*. Retrieved Νοεμβριος 2019, from [http://www.moi.gov.cy/moi/tph/tph.nsf/page41\\_gr/page41\\_gr?OpenDocument](http://www.moi.gov.cy/moi/tph/tph.nsf/page41_gr/page41_gr?OpenDocument)

## ANNEX I: Community of practise - members

Cyprus participates in the project, with Cyprus Energy Agency as the local partner. A Technical Advisory Group or a Community of practise [CoP] has **been formed** since the initiation of the Project, exclusively to guidance CEA and to assess this topic from a holistic approach. The CoP is based on a multisector approach and consists of more than 18 members from relevant Departments, Associations, Local Authorities, Universities and NGOs such as the:

- Energy Service [Ministry of Energy, Commerce and Industry]
  - Preservation Sector [Town Planning & Housing Department, Ministry of Interior]
  - Antiquities Department [Ministry of Transport, Communications & Works]
  - Department of Public Works [Ministry of Transport, Communications & Works]
  - University of Cyprus, Architecture Department
  - Cyprus University of Technology
  - Frederick University
  - Nicosia Municipality
  - ICOMOS Cyprus - International Council on Monuments and Sites
  - Cyprus Architectural Heritage Organization
  - IET Cyprus Local Network Committee
  - Federation of Environmental Organisations of Cyprus
  - Federation of Associations of Building Contractors Cyprus
  - Mechanical & Electrical Contractors Association of Cyprus
  - Association of Mechanical & Electrical and Energy Consulting Engineers
  - Directorate General for European Programmes, Coordination and Development [DG EPCD]
- & Experts on the field



Figure 24: First CoP meeting at Local level. Lefkosia, Cyprus, March 2017.



## ANNEX II: First policy addressed

### Operational Programme: “Competitiveness and Sustainable Development 2014-2020”

- Priority Axis 3: Reduction of Carbon Dioxide Emissions and Adaptation to Climate Change [2014]
  - Investment priority 4iii: Support energy efficiency, smart energy management and use of renewable energy sources for public facilities including public buildings and housing sector;
    - SO1: Increase energy saving for public buildings
    - SO2: Increase energy savings for residential houses

*Changed due to National level decision into:*

### Operational Programme: “Competitiveness and Sustainable Development 2014-2020”

- Priority Axis 5: Promotion of Sustainable Transport and Reduction of Carbon Dioxide Emissions [2017]
  - Investment priority 4iii: Support energy efficiency, smart energy management and use of renewable energy sources for public facilities including public buildings and housing sector;
    - SO1: Increase energy saving for public buildings
    - SO2: Increase energy savings for residential houses

### Managing Authority of the policy instrument addressed:

→ Directorate General for European Programmes, Coordination and Development [DG EPCD]



## Proposals Presented in the MA:

<p><b>1. Implementation of a new Specific Target [S03] for energy efficiency in heritage buildings</b></p> <p>Proposal for a non-periodical fund for 'x' number of buildings [possible declared buildings]. The idea for this measure was to mobilize the competent Departments [Energy Service, Conservation Sector, Antiquities Department] to move towards this direction, while providing the necessary financial resources.</p>	
<p><b>Proposed improvements:</b></p>	<p>→ New calls launched with a specific focus [calls for proposals on energy efficiency enlarged to cover cultural heritage buildings]</p> <p>→ Deliverable Connected to: <i>Prioritize of solutions for Cyprus, Solution Identified: Mobilizing financing opportunities for traditional/ historic buildings</i></p> <p>→ Indicative Budget €100,000</p>
<p><b>2. Mobilizing Financial Opportunities for heritage buildings within the existing Investment Priority and Specific Targets [S01 and S02].</b></p> <p>This proposal required detail planning as it was based on the available budget of the MA for the specific Axis. Also, double funding would have been an issue since the declared buildings [either listed, or monuments] can apply for national funding during their restoration phase.</p>	
<p><b>Proposed improvements:</b></p>	<p>→ New selection criteria to select projects in existing calls [calls for proposals on energy efficiency enlarged to include cultural heritage buildings]</p> <p>→ Deliverable Connected to: <i>Prioritize of solutions for Cyprus, Solution Identified: Mobilizing financing opportunities for historic/traditional buildings</i></p> <p>→ Indicative Budget €50,000</p>
<p><b>3. Mobilizing Financial Opportunities for heritage buildings within the existing Investment Priority and Specific Targets [S01 and S02]. Non-direct measures.</b></p> <p>This measure refers to the provision of funding for actions which will help to the change of the current policy in order to accelerate the transition to energy efficient cultural buildings. These actions do not concern direct funding for energy interventions but indirect funding for targeted research and other measures.</p>	
<p><b>Proposed improvements:</b></p>	<p>→ New selection criteria to initiate projects included in existing calls [calls for proposals promoting energy efficiency in cultural heritage buildings]</p> <p>→ Deliverable Connected to: <i>Prioritize of solutions for Cyprus, Solution Identified: Use local CoPs to find and establish Good Practises</i></p> <p>→ Indicative Budget €20,000</p>



It is important to note that the proposals were the output of the work implemented within VIOLET in the first phase of the project, and the new EU Policies which encourage energy efficiency in heritage buildings. The input from the CoP meetings, the exchange of expertise between the consortium members and their stakeholders, the GPs presented throughout VIOLET's implementation, provided a solid baseline.

The final response of the MA [August 2019] stated that<sup>33</sup>:

*"In relation to the existing Programming Period (PP) 2014-2020 and Priority Axis 5: Promotion of Sustainable Transport and Reduction of Carbon Dioxide Emissions ... I inform you that at the implementation stage we are now, we are not able to modify the selection criteria for residential or public buildings to include traditional and/or historic buildings for energy upgrades. This is because the scheme for private buildings is now closed, whereas for the project "Energy Upgrading of Public Buildings", the criteria have been set in 2015 and a project list has already been drawn up... In any case, the selection criteria did not exclude traditional and historic buildings. ...*

*We are now in the process of preparing the Partnership Agreement (PA) for the next PP... Subsequently, and based on the PA, the "Programs" will be prepared, which will specify the strategy, investment needs and planned sectoral interventions, as well as the broader multiannual programming included in the PA. ....*

*In order to update the PAs, Ministries have been asked to disseminate their sectoral strategy, identify problems / weaknesses acknowledged and prioritize the needs for which public intervention is deemed necessary through the implementation of the proposed projects / projects. with the appropriate documentation.*

*On the energy upgrade of buildings, a technical team will be set up to determine the criteria for the selection of buildings for energy upgrading in order to serve the overall EU objectives that have already been set and are particularly rigorous in relation to energy upgrade issues. Whether priority will be given to a particular category of buildings or to buildings with specific characteristics should be addressed by the relevant Ministry within their policy through their proposals for co-financing projects or schemes."*

---

<sup>33</sup> See also Annex II.



## ANNEX III: Preparation for participating in the consultations for the amendments of the EPBD

Before the participation to the public consultations, bilateral/individual meetings between CEA's members and members of the CoP took place [September 2018 – May 2019]. This was to introduce targeted proposals to each Competent Department -as those described above-, for changes in the current policy framework in regards the Energy Performance of heritage buildings<sup>34</sup>. Their feedback would show how each Department can contribute to a new policy framework and at what level they can support a new Regulation which will directly connect energy efficiency and heritage buildings.

The two scenarios (Proposal A and B) indicated below, were hypothetical and used as a trigger for discussion at the meetings with the Energy Service, the Preservation Sector and the Department of Antiquities (separate meetings). The proposals were presented in the form of *“What if proposal A or B, become obligatory through legislation? - What is your opinion, what is your capacity as a Department to compensate with this, and what are your suggestions in regards this topic?”*

The proposals concerned only the heritage buildings under protection status and were as follows:

### PROPOSAL A

Obligatory issuance of an Energy Performance Certificate (EPC) and Suggestions for the Improvement of the Buildings Energy Performance when heritage are renovated, restored, rented or sold.

### PROPOSAL B

Obligatory issuance of an Energy Performance Certificate (EPC) and upgrade to minimum class B in accordance to experts' suggestions when heritage buildings are renovated, restored, rented or sold.

Is noted that the scenarios were adjusted for each Department as indicated:

- For listed buildings: Proposal A or B to be a pre-condition for applying to the existing incentives for listed buildings, provided that a Planning Permit / Consent License and Building permit is issued for restoration and extension works.
- For Ancient Monuments: Proposal A or B to be a pre-condition for applying to the existing incentives for ancient monuments – Category B (private), provided they have all the necessary permissions.
- For traditional lodgings: Proposal A or B to be met when traditional lodgings (which are not declared) are intended to be used as tourist accommodation, provided that a Planning Permit / Consent License and Building permit is issued for restoration and extension works.
- For traditional, not declared, buildings: Proposal A or B to be met when heritage buildings that are not declared (usually located within 'Areas of Special Character') are undergoing renovation, provided that a Planning and Building Permit is issued for renovation and extension works.

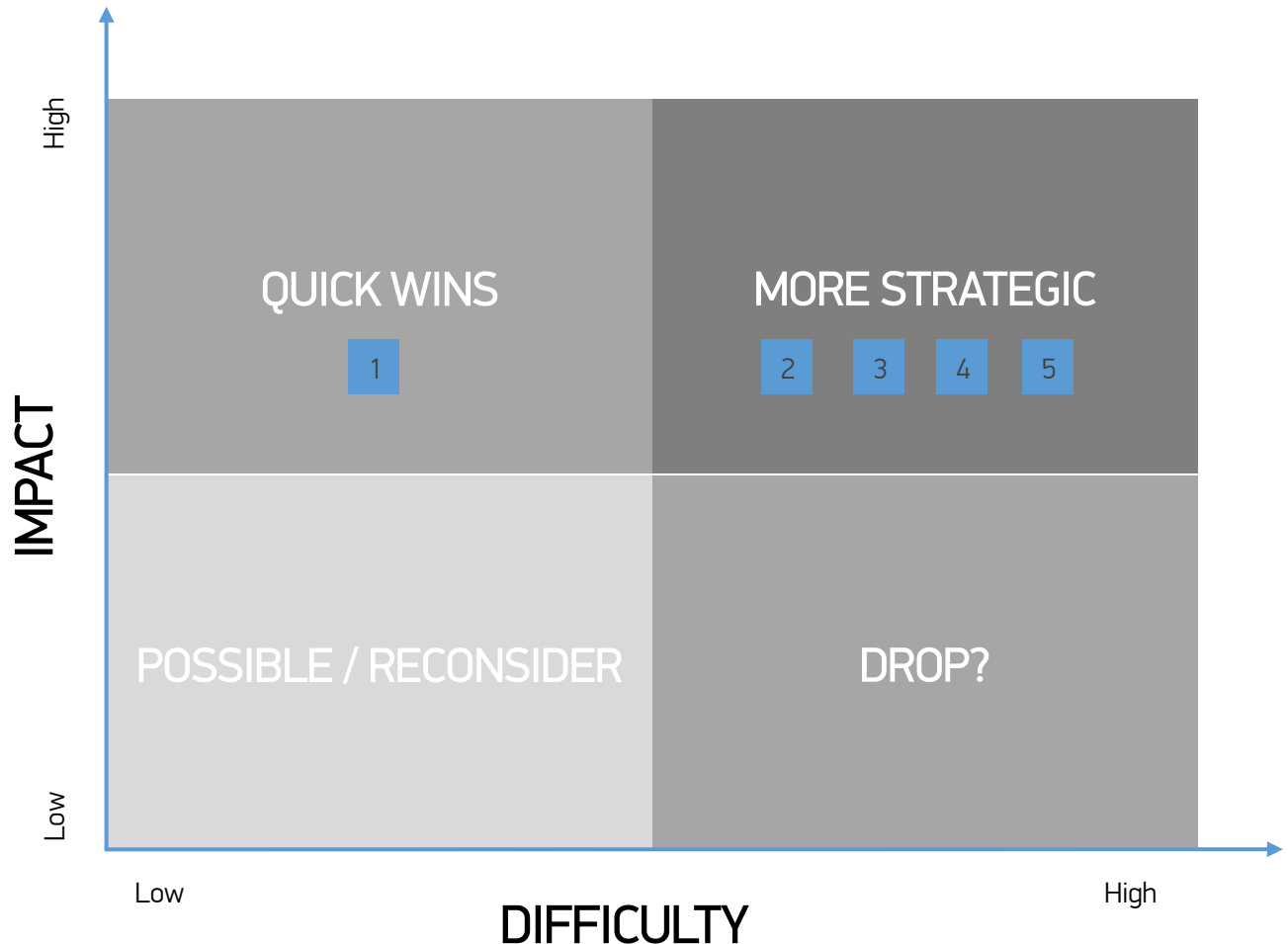
---

<sup>34</sup> For this reason and in order to ensure that the participation to the public consultations will be based on an integrated approach, CEA met with members of the CoP who are acting on policy level.



## ANNEX IV: Prioritization of solutions in accordance to territorial needs

As identified through local needs during the first year of the project:



- **QUICK WINS:** ideas with high impact and low level of difficulty are easier to carry out
- **MORE STRATEGIC:** ideas with high impact and high level of difficulty have high potentials but are more difficult to achieve. It might be useful to think of splitting them into smaller projects
- **POSSIBLE/RECONSIDER:** ideas with low impact and low level of difficulty should be given second thoughts, in order to make small adjustments that could improve them and have a greater impact
- **DROP:** ideas with low impact, but very high level of difficulty, are not realistic and achievable, thus it might be worth while dropping them (for now!)



▪ Priority 1: [Quick Win]

**SOLUTION: Use CoP to identify Good Practises\***

<b>Who</b>	The CoP members – Coordinator: Cyprus Energy Agency.
<b>What</b>	<p>Members of our CoP need to work together to identify Good Practise' examples, at local and regional level, or at interregional level. Specific attention needs to be given in public buildings as public administration must lead by example (to demonstrate results and maybe leverage private investment).</p> <p>An official committee can be created to follow up on the matter and to propose solutions both on technical and policy issues. This committee should have appointed members and representatives and good coordination in order to be gainful. In addition, the members must have an incentive and an active role themselves in order to participate constructively eg. for the Energy Service, the incentive is to conserve energy in listed buildings.</p> <p>Possible creation of a database with all the gathered information.</p>
<b>How</b>	On-Going meetings with members of the CoP and on-site visits -were possible-, in order to establish the results from different projects/actions that are considered as Good Examples.
<b>When</b>	Early 2018 → On-going (even after the end of the project – when possible)
<b>Why</b>	Finding and identifying one (or more) Good-Practise examples, is of a high importance, as other(s) can follow this. It's important to have valid arguments (established results), in the case we need to ask for a policy change, or to apply/request for investments.

*\* The establishment of a pilot example [deep renovation/rehabilitation of a traditional/historical building with monitoring], it will be a great asset, however as it doesn't fall within the purposes of VIOLET and requires a lot of time/research/financial resources, it's not considered as a quick win or a priority.*



▪ Priority 2: [More Strategic]

**SOLUTION: Preparation of a -Technical- Guidebook**

<b>Who</b>	<p>Ministry of Energy, Commerce and Industry - Town Planning and Housing Department - Department of Antiquities - Department of Public Works – Experts (Architects, Technicians etc) – University of Cyprus (Research Laboratory "<i>Energy and Environmental Design of Buildings</i>") &amp; <b>any other interested entity with experience on this field.</b></p> <p>Technical Support: Cyprus Energy Agency</p>
<b>What</b>	<p>The abovementioned stakeholders should work together to prepare a -Technical- Guidebook, which will include all the necessary information/guidelines that are needed to achieve the successful Energy Upgrade of heritage buildings.</p> <p>Maybe along the Technical Guidebook, a simple tool or a web-page with relevant information can be created.</p> <p>The above committee [Priority 1] can review both the Technical Guidebook and the tool.</p>
<b>How</b>	<p>Each of the stakeholder will provide his/her knowledge on this topic. All this information will be collected, evaluated and compared to see how it can be exploited. This material along with the Good Practise examples can be used to create the Guidebook, which will include all the necessary information/guidelines that one needs when is dealing with such projects. The Guidebook can be divided from small interventions to holistic renovations/rehabilitations and on different measures (i.e. installation of thermal insulation, replacement of the glazing etc). It can also include examples/guidelines for different regions.</p>
<b>When</b>	<p>2019 → 2021 (Ready to be distributed by the end of the project if possible). Needs to be updated on a regular basis.</p>
<b>Why</b>	<p>This Guidebook will be a great asset for all the relevant professionals. During the discussions that we had in our CoP meetings, it was clear that there is a huge gap in this sector, and that something like this will be beneficial. However, the initial investment can be high, therefore a good organization is needed.</p>



▪ Priority 3: [More Strategic]

**SOLUTION: Training for professionals of relevant fields/sectors**

<b>Who</b>	<p>The trainers: Members of our CoP or other experts with proven experience. Support by Cyprus Energy Agency.</p> <p>The trainees: Urban planners and the technical staff of Local authorities / Government services, Architects, Engineers, Energy auditors, Installers, Technicians, Craftsmen and any other interest part.</p>
<b>What</b>	<p>Training for all the relevant professionals should be provided. In Cyprus there aren't many professionals that are familiar with both the energy and heritage issues, therefore many times the interventions on these buildings do not have the desired results. Since the adaptation of a holistic approach for this kind of projects/buildings is necessary, common priorities should be set. This training will cover these aspects through all phases, from field studies to works execution, and can be divided in sectors like legislation, RES, materials etc, whereas in the end, a Certificate should be given.</p>
<b>How</b>	<p>Locally, the CoP members will organise training sessions in partnership with other experts, depending on the subject. Those can have a duration of some days or even some months. This will be decided on a later stage, as there are some management and financial issues to be thought of.</p>
<b>When</b>	<p>2020 → On-going process (until this need for a training will be limited).</p>
<b>Why</b>	<p>As there is a lack of experienced professionals (a knowledge/experience gap), both in the Energy sector and the Heritage/Cultural sector, the provision of training to the professionals (not just the architects and the urban designers), but also for the installers and in general all who are involved in the process, is essential. – This can be combined with the creation of the Technical Guidebook → Distribution.</p>



▪ Priority 4: [More Strategic]

**SOLUTION: Mobilizing financing opportunities for traditional/historical buildings \***

<b>Who</b>	<p>For Public Buildings: financing opportunities can be given through the Structural Funds (Operational Programme "Competitiveness and Sustainable Development 2014-2020" - Axis 3: Reduction of Carbon Dioxide Emissions and Adaptation to Climate Change → Energy upgrading of public buildings).</p> <p>For private buildings: More efficient incentives and/or financial schemes for the energy upgrade of traditional/heritage buildings should be given by the Ministry of Energy, Commerce and Industry <b>or</b> the Town Planning and Housing Department <b>and/or</b> the Department of Antiquities. The awareness of the public will have an important contribution to this.</p>
<b>What</b>	<p>Implementation of clear and efficient incentive schemes for both the public and private administrators/owners, that will address the renovation/rehabilitation of traditional/historical buildings, along with energy efficiency measures. Incentives that are currently in force – both for public and private owners, are not sufficient.</p> <p><b>Example:</b> The Ministry of Energy, Commerce, Industry and Tourism, announced in 2015 the plan, "Save and Upgrade", which had as a target the energy upgrade of existing buildings. The grants which were granted to the beneficiaries who joined the plan, ranged between 50% and 75%, depending on the type of investment they were selecting. The amount of the funding was up to €25,000 for each building or €20,000 for each building unit. Nevertheless, the vast majority of the applications didn't concern heritage buildings (even if it was not prohibitive). This shows that there are still some reservations regarding the interventions on these buildings, therefore the next calls, may include these buildings - with specific criteria. Even if specific criteria are not easy to be set, it is important to encourage the owners of heritage buildings to participate in this plan.</p> <p>Another option will be a new funding scheme, specifically for this type of buildings. In any other case, and if a new, specific financial incentive is not possible, a first step can be to record all available financial incentives that could potentially be used by the owner or tenant of such a building. As a next step, problematic points and suggestions for correction should be identified.</p>
<b>How</b>	<p>Inventory of incentives in force, comparative analysis, Revision of the schemes – Set of specific criteria, Consultation and finalisation of the proposal. Work together with the political and non-political actors to forward and support the initiative. Efforts should be motivated to work cooperatively both towards the historical and aesthetic restoration of the building and to its energy upgrading to the maximum possible extent.</p>
<b>When</b>	<p>From 2018: Next programming period of structural funds → After VIOLET Project comes to an end and awareness has raised &amp; interests awaken</p>
<b>Why</b>	<p>The mobilization of financing opportunities for the energy upgrade of the traditional/historical buildings is important in order to create a building culture that is sympathetic to modern requirements of reinstatement and conservation, for improved energy usage and reduced carbon emissions, without endangering architectural heritage. With incentives, both the public and private administrators/owners can be motivated to work towards this direction and a pilot project might be established. In any other case, the investment might look unaffordable, leaving these buildings neglected.</p>



▪ Priority 5: [More Strategic]

**SOLUTION: Redefinition, Clarification and Unification of the current relevant Legislation/Regulations\***

<b>Who</b>	Ministry of Energy, Commerce and Industry - Town Planning and Housing Department - Department of Antiquities – Local Authorities - Other legislative chambers.  Contribution by Cyprus Energy Agency
<b>What</b>	There is an important need to unify all the relevant laws/regulations as at the moment they are divided and broken to various parts, which makes it really difficult to work around them. As this is might be difficult to achieve, <b>the possibility to create a unified appendix</b> with all the references, should be examined in order to -at least- clarify responsibilities among policy makers <b>[quick win]</b> .
<b>How</b>	<p>This solution is one of the most difficult to be implemented as there are a lot of involved parties. However, as its effect are deemed important, an effort should be made by all relevant stakeholders. Some suggestions are the following:</p> <p>e.g. The Article 7, directive 2010/31/EE – Adapted in: Cyprus’ “<i>Long-term strategy for mobilising investment in the renovation of the national stock of residential and commercial buildings, both public and private</i>” states that energy efficient renovations should be made to at least 3% of buildings owned and occupied by central government. This can be adjusted in order the 0.5% - 1% of the 3%, can concern specifically the traditional/historical buildings.</p> <p>Other. Standardisation of the requirements or of the processes when historical/traditional buildings are renovated / re-occupied. eg. Setting minimum requirements for energy performance, acquiring an EPC when undertaking major rehabilitation work etc.</p> <p>Other: Collection of all relevant laws from the various departments/authorities, in a common legislative framework (with the inclusion of proper references).</p> <p>Other: New requirements in specifications for public tenders &amp; simpler procedures.</p>
<b>When</b>	Early 2019 → About 5 years (from the transition/adaptive period to the new legislation/regulations)
<b>Why</b>	Additional laws in Cyprus might not be necessary (or at least a priority), but a readjustment of the current laws to include this kind of buildings (i.e. historical, traditional buildings), is necessary. The current state of the relevant legislation in Cyprus does not make it easier when someone undertakes such a job. A lot of people/authorities are involved in this process (usually without having any communication between them), which makes it time consuming and sometimes this acts as a barrier, leaving these buildings unexploited. In addition, as there is not a specific regulation/legislation that sets some specific standards, some interventions deemed as inadequate. Furthermore, these buildings are usually neglected since are considered as “having too much work” or as “difficult cases”, which can lead to the degradation of our cultural/architectural heritage. In general, we ought to establish a policy instrument that makes it easier to make heritage/historical buildings more energy efficient with fast procedures for a permit and clear rules.



## ANNEX V: Information on project activities carried out

### Interregional input that helped to reach this policy development:

- Host of the 2<sup>nd</sup> PM in combination with the local CoP meeting
- Participation to the 3<sup>rd</sup> PM in Germany with 2 key-stakeholders
- Participation to the Energy Transition Event [2018]
- Participation to the EU-WISE event & presentation of the local GP
- Participation to the 5<sup>th</sup> PM in Netherlands with 3 key-stakeholders
- Analysis of GPs within the consortium members
- Participation to the 6<sup>th</sup> PM in Netherlands with a key-stakeholder
- Inspiration from invited stakeholders in the Project Meetings
- Inspiration from visits to GP Examples during PMs
- Targeted Staff exchange in Cyprus [with SERDA, Middleburg and local CoP]

### Other input that helped to reach this policy development:

- Creation of the local CoP [more than 20 key-stakeholders from various backgrounds & expertise]
- WISE events with open discussions
- Bilateral Meetings with key-stakeholders
- Aggregate CoP meetings per semester
- Transfer of Interregional experiences
- Participation to relevant events and seminars

*All the relevant material of the above activities/events is available on request.*



## ANNEX VI: Participation to the public consultation [GR]

Participation to the "Public Consultation on the bill entitled "The Regulation on the Energy Performance of Buildings (Amendment) Law of 2019".

### ΕΝΤΥΠΟ ΣΧΟΛΙΩΝ / ΕΙΣΗΓΗΣΕΩΝ

#### Δημόσια Διαβούλευση για το νομοσχέδιο με τίτλο «ο περί Ρύθμισης της Ενεργειακής Απόδοσης των Κτιρίων (Τροποποιητικός) Νόμος του 2019»

#### Στοιχεία προσώπου/οργανισμού που αποστέλλει σχόλια / εισηγήσεις:

Όνοματεπώνυμο: ΣΑΒΒΑΣ ΒΛΑΧΟΣ

Επαγγελματική Ιδιότητα: ΕΙΔΙΚΕΥΜΕΝΟΣ ΕΜΠΕΙΡΟΓΝΩΜΟΝΑΣ, ΕΝΕΡΓΕΙΑΚΟΣ ΕΛΕΓΚΤΗΣ, ΔΙΕΥΘΥΝΤΗΣ ΕΝΕΡΓΕΙΑΚΟΥ ΓΡΑΦΕΙΟΥ

Όνομα Οργανισμού/ επιχείρησης (εάν εφαρμόζεται) : ΕΝΕΡΓΕΙΑΚΟ ΓΡΑΦΕΙΟ ΚΥΠΡΙΩΝ ΠΟΛΙΤΩΝ

(1) Α/Α	(2) Αρ. Παραγράφου	(3) Αρ. Σελ.	(4) Σχόλιο / Εισήγηση	(5) Αιτιολόγηση
1	Παράρτημα II [άρθρο 4 (5) & 8]		<p>Το Παράρτημα II του βασικού νόμου να τροποποιηθεί ως εξής:</p> <p>Οι κατηγορίες κτιρίων που εξαιρούνται από την υποχρέωση τήρησης των <b>ελάχιστων απαιτήσεων ενεργειακής απόδοσης</b> είναι οι ακόλουθες:</p> <ol style="list-style-type: none"> <li>Κτίρια που έχουν κηρυχθεί ως διατηρητέες οικοδομές, σύμφωνα με τον περί Διατηρητέων Οικοδομών Νόμο ή έχουν κηρυχθεί ως αρχαία μνημεία, σύμφωνα με τον περί Αρχαιοτήτων Νόμο, ή <b>κτίρια τα οποία εμπίπτουν σε Περιοχές Ειδικού Χαρακτήρα σύμφωνα με τη Δήλωση Πολιτικής Παράρτημα Ζ, όπου η τήρηση των ελάχιστων απαιτήσεων ενεργειακής απόδοσης αλλοιώνει, κατά τρόπο μη αποδεκτό, το χαρακτήρα ή την εμφάνισή τους, υπό την προϋπόθεση επαρκούς τεκμηρίωσης προς το Διευθυντή του Τμήματος Πολεοδομίας και Οικήσεως ή του Διευθυντή του Τμήματος Αρχαιοτήτων ή της Αρμόδιας Τοπικής Αρχής όπου ισχύει.</b></li> <li>Τμήματα ή σύνολο βιομηχανικών ή</li> </ol>	<p>Καθώς οι Ευρωπαϊκές και Εθνικές πολιτικές προσανατολίζονται στην ενεργειακή αναβάθμιση του συνόλου του κτιριακού αποθέματος, ιδιαίτερη έμφαση θα πρέπει να δοθεί για την προώθηση της ενεργειακής ανακαίνισης των υφιστάμενων κτιρίων <b>[καταρτισμός μακροπρόθεσμης στρατηγικής ανακαίνισης του υφιστάμενου κτιριακού αποθέματος]</b>.</p> <p>Την ίδια στιγμή, σημαντικός αριθμός κτιρίων στο υφιστάμενο κτιριακό απόθεμα, προστατεύονται από το νόμο ως μέρος συγκεκριμένου περιβάλλοντος ή λόγω της ιδιαίτερης αρχιτεκτονικής ή ιστορικής τους αξίας (&gt;8,000) και ως εκ τούτου εξαιρούνται των υποχρεώσεων του περί ενεργειακής απόδοσης των κτιρίων νόμο.</p> <p>Ωστόσο, καθώς η χρηστικότητα τους συμβάλει στη διατήρησή τους, τα κτίρια αυτά θα πρέπει να μπορούν να ανταπεξέλθουν στις σύγχρονες απαιτήσεις, οι οποίες αναφέρονται σε κτίρια χαμηλής/μηδενικής ενεργειακής κατανάλωσης. Επίσης, καθώς το ενεργειακό κόστος του κτιριακού τομέα</p>



## ΕΝΤΥΠΟ ΣΧΟΛΙΩΝ / ΕΙΣΗΓΗΣΕΩΝ

### Δημόσια Διαβούλευση για το νομοσχέδιο με τίτλο «ο περί Ρύθμισης της Ενεργειακής Απόδοσης των Κτιρίων (Τροποποιητικός) Νόμος του 2019»

			<p>βιοτεχνικών κτιρίων ή αποθηκών, για τα οποία δεν χρησιμοποιείται ενέργεια προς ρύθμιση των εσωτερικών κλιματικών συνθηκών και χρησιμοποιούνται για αμιγώς βιομηχανική, βιοτεχνική ή αποθηκευτική χρήση. Βοηθητικοί χώροι με συνολική ωφέλιμη επιφάνεια κάτω των 50 τετραγωνικών μέτρων για τους οποίους χρησιμοποιείται ενέργεια προς ρύθμιση των εσωτερικών κλιματικών συνθηκών που αποτελούν μέρος των υπό αναφορά κτιρίων.</p> <p>3. Αγροτικά μη κατοικήσιμα από ανθρώπους κτίρια, τα οποία έχουν χαμηλές ενεργειακές απαιτήσεις ή χρησιμοποιούνται σε τομέα που καλύπτεται από ειδική συμφωνία για ενεργειακή απόδοση.</p> <p>4. Μεμονωμένα κτίρια με συνολική ωφέλιμη επιφάνεια κάτω των 50 τετραγωνικών μέτρων.</p> <p>Οι κατηγορίες κτιρίων που εξαιρούνται από την υποχρέωση τήρησης <b>έκδοσης πιστοποιητικού ενεργειακής απόδοσης κτιρίου</b>:</p> <p>1. Τμήματα ή σύνολο βιομηχανικών ή βιοτεχνικών κτιρίων ή αποθηκών, για τα οποία δεν χρησιμοποιείται ενέργεια προς ρύθμιση των εσωτερικών κλιματικών συνθηκών και χρησιμοποιούνται για αμιγώς βιομηχανική, βιοτεχνική ή αποθηκευτική χρήση. Βοηθητικοί χώροι με συνολική ωφέλιμη επιφάνεια κάτω των 50 τετραγωνικών μέτρων για τους οποίους χρησιμοποιείται ενέργεια προς ρύθμιση των εσωτερικών κλιματικών συνθηκών που αποτελούν μέρος των υπό αναφορά κτιρίων.</p> <p>2. Αγροτικά μη κατοικήσιμα από ανθρώπους</p>	<p>συνεχώς αυξάνεται, η εξαίρεση τους από τις ελάχιστες απαιτήσεις ενεργειακής αναβάθμισης θα τα καταστήσει ακόμα πιο 'ασύμφορα'.</p> <p>Τα κτίρια αυτά δύναται να συμπεριληφθούν στις υποχρεώσεις του παρόντος Διατάγματος, και να υπάρξει υποχρέωση εκπόνησης Μελέτης Ενεργειακής Απόδοσης. Σε περίπτωση, όμως, που η τήρηση των ελάχιστων απαιτήσεων ενεργειακής απόδοσης αλλοιώνει, κατά τρόπο μη αποδεκτό, το χαρακτήρα ή την εμφάνιση τους ή/και παραβιάζονται οι ειδικοί όροι και μορφολογικοί περιορισμοί που επιβάλλουν οι διοικητικές πράξεις προστασίας που διέπουν το προστατευόμενο κτίριο ή περιοχή, να μπορεί να γίνει αποδεκτή η μη τήρηση των απαιτήσεων αυτών, <u>υπό την προϋπόθεση επαρκούς τεκμηρίωσης</u>.</p> <p>Σημειώνεται επίσης ότι στην Κύπρο υπάρχουν αυτή τη στιγμή 168 Περιοχές Ειδικού Χαρακτήρα, ['αξιόλογοι παραδοσιακοί οικισμοί με ιδιαίτερο κοινωνικό, αρχιτεκτονικό, ιστορικό και άλλο ενδιαφέρον ή χαρακτήρα'] με σημαντικό κτιριακό απόθεμα (&gt;15,000), στο οποίο οι δράσεις ενεργειακής αναβάθμισης είναι περιορισμένες. Σκοπός είναι η κινητοποίηση των συγκεκριμένων δράσεων σε αυτές τις περιοχές στο μέγιστο δυνατό βαθμό.</p> <p>Επισημαίνεται, επίσης, ότι σε αντίστοιχες περιπτώσεις σε χώρες της ΕΕ τα διατηρητέα κτίρια και τα κτίρια εντός παραδοσιακών οικισμών δεν εξαιρούνται από την υποχρέωση έκδοσης Πιστοποιητικού</p>
--	--	--	---	--



### ΕΝΤΥΠΟ ΣΧΟΛΙΩΝ / ΕΙΣΗΓΗΣΕΩΝ

#### Δημόσια Διαβούλευση για το νομοσχέδιο με τίτλο «ο περί Ρύθμισης της Ενεργειακής Απόδοσης των Κτιρίων (Τροποποιητικός) Νόμος του 2019»

		<p>κτίρια, τα οποία έχουν χαμηλές ενεργειακές απαιτήσεις ή χρησιμοποιούνται σε τομέα που καλύπτεται από ειδική συμφωνία για ενεργειακή απόδοση.</p> <p>3. Μεμονωμένα κτίρια με συνολική ωφέλιμη επιφάνεια κάτω των 50 τετραγωνικών μέτρων.</p> <p>Κατ' επέκταση να προστεθεί νέος πίνακας που να καταγράφει τις ελάχιστες απαιτήσεις για προστατευμένα κτίρια [διατηρητέα και αρχαία μνημεία], ή για κτίρια τα οποία εμπίπτουν σε Περιοχές Ειδικού Χαρακτήρα, στο διάταγμα απαιτήσεων ελάχιστης ενεργειακής απόδοσης κτιρίου [μεταγενέστερο στάδιο]:</p> <p>Η εισήγηση μας είναι να καθοριστούν οι ακόλουθες απαιτήσεις:</p> <p>(α) υποχρέωση για έκδοση ΠΕΑ (β) υποχρέωση για θερμομόνωση οροφής με U value &lt; 0.4 W/m<sup>2</sup>.K (γ) Κατηγορία ενεργειακής απόδοσης τουλάχιστον Β στο Πιστοποιητικό Ενεργειακής Απόδοσης Κτιρίου για κτίρια που χρησιμοποιούνται ως κατοικίες (δ) Κατηγορία ενεργειακής απόδοσης τουλάχιστον Γ στο Πιστοποιητικό Ενεργειακής Απόδοσης Κτιρίου για κτίρια που χρησιμοποιούνται ως μη κατοικίες</p> <p><b>Να δοθεί προθεσμία εφαρμογής της απαίτησης από την 1/1/2022</b></p>	<p>Ενεργειακής Απόδοσης (ΠΕΑ).</p> <p>Επίσης, σε Ευρωπαϊκό αλλά και Εθνικό επίπεδο, έχουν εφαρμοστεί -και εφαρμόζονται - πρακτικές κατασκευαστικών τεχνικών για την ενεργειακή αναβάθμιση των εν λόγω κτιρίων χωρίς αυτές να συγκρούονται με το Διάταγμα Προστασίας τους.</p> <p>Η εφαρμογή των παραπάνω μπορεί να ενισχυθεί με την υιοθέτηση κατάλληλων στοχευμένων χρηματοδοτικών ή άλλων κινήτρων.</p> <p>Σκοπός είναι επίσης η αξιοποίηση των προθέσεων των χρηστών των συγκεκριμένων κτιρίων οι οποίοι αναζητούν λύσεις ενεργειακής αναβάθμισης και βελτίωσης των συνθηκών άνεσης.</p>
--	--	--	---



## ΕΝΤΥΠΟ ΣΧΟΛΙΩΝ / ΕΙΣΗΓΗΣΕΩΝ

### Δημόσια Διαβούλευση για το νομοσχέδιο με τίτλο «ο περί Ρύθμισης της Ενεργειακής Απόδοσης των Κτιρίων (Τροποποιητικός) Νόμος του 2019»

2	4	<p>Το άρθρο 4 του βασικού νόμου τροποποιείται με την προσθήκη αμέσως μετά το εδάφιο (3) των ακόλουθων εδαφίων:</p> <p>«(4) Κάθε κτίριο ή κτιριακή μονάδα, που διατίθενται προς πώληση ή/και πωλούνται και κάθε κτίριο ή κτιριακή μονάδα που διατίθενται προς εκμίσθωση ή/και εκμισθώνονται σε νέο ενοικιαστή, πληροί τις απαιτήσεις ελάχιστης ενεργειακής απόδοσης, όπως αυτές καθορίζονται στο διάταγμα απαιτήσεων ελάχιστης ενεργειακής απόδοσης κτιρίου.</p> <p>Τα παραπάνω, να εφαρμόζονται <u>εκτός αν τεκμηριώνεται ότι είναι τεχνικά ή/και οικονομικά ανέφικτα μέσω μελέτης σκοπιμότητας.</u></p> <p>Κατ' επέκταση να προστεθεί νέος πίνακας που να καταγράφει τις ελάχιστες απαιτήσεις για υφιστάμενα κτίρια τα οποία ενοικιάζονται ή πωλούνται, στο διάταγμα απαιτήσεων ελάχιστης ενεργειακής απόδοσης κτιρίου [μεταγενέστερο στάδιο]:</p> <p>Η εισήγηση μας είναι να καθοριστούν οι ακόλουθες απαιτήσεις:</p> <p>(α) υποχρέωση για θερμομόνωση οροφής με <math>U \text{ value} &lt; 0.4 \text{ W/m}^2\text{K}</math></p> <p>(β) Κατηγορία ενεργειακής απόδοσης τουλάχιστον Δ στο Πιστοποιητικό Ενεργειακής Απόδοσης Κτιρίου για κτίρια που χρησιμοποιούνται ως κατοικίες</p> <p>(γ) Κατηγορία ενεργειακής απόδοσης τουλάχιστον Ε στο Πιστοποιητικό Ενεργειακής Απόδοσης Κτιρίου για κτίρια που χρησιμοποιούνται ως μη κατοικίες</p> <p><b>Να δοθεί προθεσμία εφαρμογής της απαίτησης από την 1/1/2022</b></p>	<p>Η εισήγηση στοχεύει στη βελτίωση της ενεργειακής απόδοσης του υφιστάμενου κτιριακού αποθέματος <b>[καταρτισμός μακροπρόθεσμης στρατηγικής ανακαίνισης του υφιστάμενου κτιριακού αποθέματος]</b> και επικεντρώνεται σε όλα τα κτίρια τα οποία ενοικιάζονται ή πωλούνται.</p> <p>Αυτό, μπορεί να εφαρμοστεί σταδιακά, δίνοντας χρονικό περιθώριο στους ιδιοκτήτες των κτιρίων να προβούν σε βελτιωτικές επεμβάσεις (που δεν περιλαμβάνονται στη ριζική ανακαίνιση).</p> <p>Ένα ενδεικτικό χρονοδιάγραμμα, σταδιακής εφαρμογής ελάχιστων απαιτήσεων στα κτίρια αυτά είναι:</p> <p>Κατοικίες: Από την 1/1/2022: τουλάχιστον Δ στο ΠΕΑ Από την 1/1/2024: τουλάχιστον Γ στο ΠΕΑ Από την 1/1/2026: τουλάχιστον Β στο ΠΕΑ</p> <p>Μη Κατοικίες: Από την 1/1/2022: τουλάχιστον Ε στο ΠΕΑ Από την 1/1/2024: τουλάχιστον Δ στο ΠΕΑ Από την 1/1/2026: τουλάχιστον Γ στο ΠΕΑ</p>
---	---	---	---