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Ștefan cel Mare  
Suceava



Romania-Ukraine  
ENI-CROSS BORDER COOPERATION

## **Professor Radu-Dumitru PENTIUC**

Director of the Electrotechnical Department  
“Ștefan cel Mare” University Suceava

Round Table 12.02.2021

**Cross-Border Cooperation Smart Energy,  
ENI CBC Romania-Ukraine/2soft/1.2/52**



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**Project title:** Cross-Border Cooperation Smart Energy

**Project registration number:** 2SOFT/1.2/52

**Lead Beneficiary:** "Stefan cel Mare" University of Suceava, Romania

**Beneficiary 1:** State University "Uzhhorod National University", Ukraine

**Beneficiary 2:** International Association of Regional Development Institutions IARDI, Ukraine

**Implementation Period:** 18 months

### **Project General Objective**

Increase of the usage of new technologies and innovations in the field of renewable energy provided by promotion and support to researches and innovations in a sustainable way in the border regions of Ukraine and Romania.

Establishment of a strong platform for joint research actions and studies (including related equipment procurement) in the field of renewable energy and resource efficiency.

The following achievements will be reached: developed energy audits studies and energy management with the application of new technologies and innovations for local communities and locations; improved regional situation of the sustainable use of energy in the cross-border area due to effective and innovative energy solutions in communities provided as a result of cooperation with the universities and professional institutions.

The strategic approach in energy efficiency will be introduced and the activities aimed at promotion and providing support to researches and innovations in the field of energy efficiency will be harmonised on the EU and non-EU sides of the border.



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## Project Specific Objectives

1. Creation of the institutional and informational basis for conducting common theoretical and practical baseline researches on efficient energy consumption in border regions of Romania and Ukraine with the focus on universities and practical introductions in the communities.
2. Introduction of the Cross-Border Cooperation Smart Energy Concept in the border regions of Romania and Ukraine through holding joint research actions and establishment of the common institutional basis. Providing innovative approach in energy efficiency and renewable energy sources in border regions through the development the Cross-Border Cooperation Energy Concept for pilot communities and universities is based on the clusters approach “Universities-Communities”; strengthening cross-border cooperation; facilitating the exchange of experience and best practices between the partners and pilot communities regarding regional sustainable energy strategies, awareness and education policies, actions and projects carried out in their region through workshops and study tours organized in each partner region.
3. Promotion of the renewable energy and resources efficiency through implementing common researches initiatives, Established Energy Laboratories for communities in Suceava and Uzhhorod aimed at energy monitoring, development of the new solutions for pilot communities and locations, preparing the specialists for energy management after the implementation of the new complex technical and logistic installations in the two regions; introduction of the training programmes in energy management in Romania and Ukraine; sharing experience of Romanian Institutions in energy management; functioning of the energy component of the CBC Smart Laboratories in border regions.



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Project 2SOFT/1.2/52 (2020), Cross-Border Cooperation Smart Energy (CBCSmartEnergy), Grant contract Joint Operational Programme Romania – Ukraine 2014-2020 financed by ENI CBC

Beneficiary: **Mitocu Dragomirnei Cultural Center**



## **ENERGY AUDIT for CULTURAL CENTER BUILDING**

**Mitocu Dragomirnei locality, Suceava county**

PROJECT: Rehabilitation and modernization of the Cultural Center building, village / commune. Mitocu Dragomirnei, Suceava County

Date: January 2021

Energy auditor for first grade buildings: **PhD. Eng. Pavel ATĂNĂSOAE**

Construction Specialty (AEIc) - Attestation certificate: **BA series no. 00776 / 18.06.2008**

Specialty Installations (AEIi) - Attestation certificate: **BA series no. 00844 / 18.06.2008**

**Cross-Border Cooperation Smart Energy, ENI CBC Romania-Ukraine/2soft/1.2/52**



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#### ASSOCIATION AGREEMENT



on participation in the Cross-Border Cooperation Smart Energy - CBCSmartEnergy project code 2SOFT-1.2-52 co-financed by the European Union in the framework of JOINT OPERATIONAL PROGRAM ROMANIA - UKRAINE ENI CBC 2014-2020.

In order to implement the cross-border project Cross-Border Cooperation Smart Energy - CBCSmartEnergy code 2SOFT-1.2-52 co-financed by the European Union in the framework of JOINT OPERATIONAL PROGRAM ROMANIA - UKRAINE ENI CBC 2014-2020

#### I. Parties to the Agreement:

"Ștefan cel Mare" University of Suceava, coordinator of the project code 2SOFT-1.2-52, based in Suceava, str. Universitatii, no. 13 Code 720229, tel: 0230-216147, fax: 0230-520080, e-mail: rectorat@usv.ro, fiscal code 4244423, represented by Rector **prof. univ. dr. eng. Valentin POPA** and Project Manager **prof. univ. dr. eng. Radu-Dumitru PENTIUC**, tel. 0740350552, Fax: 0230520080, email: radup@eed.usv.ro, on the one hand,

and

Territorial Administrative Unit - TAU Mitocu Dragomirnei Commune, based in Mitocu Dragomirnei, Str. ANASTASIE CRIMCA .nr.54., postal code 727365., telephone 0230- 533802 . CF 4441018., represented by Primar Radu Constantin REZIUC - Mayor, empowered by the provisions of art. 21 para. (1) and art. 62, para. 1 of Law 215/2001 on local public administration to represent the interests of the administrative-territorial unit, republished,

They have agreed to conclude this Association Agreement.

#### II. Purpose of the Agreement:

Implementation of the Cross-Border Cooperation Smart Energy project - CBCSmartEnergy code 2SOFT-1.2-52 co-financed by the European Union under JOINT OPERATIONAL PROGRAM ROMANIA - UKRAINE ENI CBC 2014-2020 by carrying out activities to achieve in optimal conditions the objectives proposed by the project.

#### III. The objectives of the association:

- Carrying out basic theoretical and practical research aimed at developing the CBCSmartEnergy concept;
- Establishment of energy innovation centers and energy efficiency laboratories for the exchange of information and introduction into communities and professional institutions in each partner region;
- Formation of working groups for conducting energy audits and development of action plans for communities and locations, activities that are planned to be carried out with a strong component of training and exchange of experience;
- Organizing training sessions for working groups and energy audit teams;
- Carrying out small-scale interventions, establishing an efficient system for measuring energy consumption, data collection, activities that are planned to be carried out with a strong educational component and exchange of experience;
- Organizing thematic seminars for working groups, in order to present research results and audit results;
- Development of the CBCSmartEnergy communication plan, meant to develop the communication links and visualization events for the efficient realization of the project, during and after its realization;
- Dissemination and promotion activities.

#### IV. Duration of the association agreement:

The duration of this agreement is 18 months, starting from the date of signing by both parties and until the completion of the project, in September 2021.

#### V. Obligations of the parties:

- No co-financing from TAUs is requested.
- All costs related to the joint activities carried out for the project will be covered by the project budget.
- Designates a person from the institution responsible for good collaboration between the associated institutions;
- Through the designated person participates in meetings, debates, round tables organized around the theme of the project;





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- Provides technical assistance for achieving the project objectives, which will sum up all the results and knowledge acquired through the project;
- Supports dissemination and communication actions;
- Monitors the project in phases and transmits information in a timely manner to all members.

VI. Association results:

- Elaboration of a communication plan;
- Construction of energy innovation centers and energy efficiency laboratories with qualified staff and related professional equipment for energy audits;
- Development of energy efficiency plans (energy audit reports) as main parts of CBCEnergyConcept;
- Establishing an efficient system for measuring energy consumption in buildings;
- Training skilled and educated people with knowledge about energy saving;
- Organizing trainings and workshops for project teams;
- Development of tools for information and communication of project results and dissemination at local, national and international level

University "Ștefan cel Mare" of Suceava

Responsible for the project

Prof. univ. dr. ing. Radu-Dumitru PENTIUC

Rector,

Prof. univ. dr. Ing. Valentin POPA

UAT Mitocu Dragomirnei Commune

Primar Radu Constantin REZIUC





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#### ACORD DE ASOCIERE

privind participarea în vederea realizării proiectului Cross-Border Cooperation Smart Energy – CBCSmartEnergy cod 2SOFT-1.2-52 cofinanțat de Uniunea Europeană în cadrul JOINT OPERATIONAL PROGRAMME ROMANIA – UKRAINE ENI CBC 2014-2020.

În vederea implementării proiectului transfrontalier Cross-Border Cooperation Smart Energy – CBCSmartEnergy cod 2SOFT-1.2-52 cofinanțat de Uniunea Europeană în cadrul JOINT OPERATIONAL PROGRAMME ROMANIA – UKRAINE ENI CBC 2014-2020

#### I. Părțile acordului:

Universitatea "Ștefan cel Mare" din Suceava, coordonator al proiectului cod 2SOFT-1.2-52, cu sediul în Suceava, str. Universității, nr.13 Cod 720229, tel: 0230-216147, fax: 0230-520080, e-mail: [rectorat@usv.ro](mailto:rectorat@usv.ro), cod fiscal 4244423, reprezentată prin Rector **prof. univ. dr. ing. Valentin POPA** și Responsabil de proiect **prof. univ. dr. ing Radu-Dumitru PENTIUC**, tel. 0740350552, Fax: 0230520080, email: [radup@eed.usv.ro](mailto:radup@eed.usv.ro), pe de o parte,

și  
Unitatea Administrativ teritorială – UAT Comuna Mitocu Dragomirnei, cu sediul în Mitocu Dragomirnei, Strada Anastasie Crimca nr. 54, cod poștal 727365., telefon/fax 0230533802, CF 4411018, reprezentată prin Radu Constantin REZIUC - Primar, împuternicit prin dispozițiile art. 21 alin. (1) și art. 62, alin. 1 din Legea 215/2001 privind administrația publică locală să reprezinte interesele unității administrativ - teritoriale, republicată, Au convenit încheierea prezentului Acord de asociere.

#### II. Scopul Acordului:

Implementarea proiectului Cross-Border Cooperation Smart Energy – CBCSmartEnergy cod 2SOFT-1.2-52 cofinanțat de Uniunea Europeană în cadrul JOINT OPERATIONAL PROGRAMME ROMANIA – UKRAINE ENI CBC 2014-2020 prin desfășurarea unor activități pentru realizarea în condiții optime a obiectivelor propuse prin proiect.

#### III. Obiectivele asocierii:

- Efectuarea unor cercetări teoretice și practice de bază având ca scop dezvoltarea conceptului CBCSmartEnergy;
- Înființarea centrelor de inovare energetică și laboratoare de eficiență energetică pentru schimbul de informații și introducerea în comunități și instituții profesionale din fiecare regiune parteneră;
- Formarea de grupuri de lucru pentru efectuarea de audituri energetice și dezvoltarea planurilor de măsuri pentru comunități și locații, activități ce sunt planificate să se desfășoare cu o puternică componentă de instruire și schimb de experiență;
- Organizarea de sesiuni de formare pentru grupurile de lucru și echipele de audit energetic;
- Efectuarea de intervenții la scară mică, stabilirea unui sistem eficient de măsurare a consumului de energie, colectarea datelor, activități ce sunt planificate să se desfășoare cu o componentă puternică educațională și schimb de experiență;
- Organizarea de seminarii tematice pentru grupuri de lucru, cu scopul de a prezenta rezultatele cercetărilor și rezultatele auditurilor;

- Dezvoltarea planului de comunicare CBCSmartEnergy, menit să dezvolte legăturile de comunicare și evenimentele de vizualizare pentru realizarea eficientă a proiectului, în timpul, precum și după realizarea acestuia;
- Activități de diseminare și promovare.

#### IV. Durata acordului de asociere:

Durata prezentului acord este de 18 de luni, începând cu data semnării de către ambele părți și până la finalizarea proiectului, în septembrie 2021.

#### V. Obligațiile părților:

- Nu se solicită cofinanțare din partea UAT-urilor.
- Toate costurile legate de activitățile realizate în comun pentru derularea proiectului vor fi asigurate din bugetul proiectului.
- Desemnează o persoană din cadrul instituției responsabilă de buna colaborare între instituțiile asociate;
- Prin persoana desemnată participă la întâlnirile, dezbaterile, mesele rotunde organizate în jurul tematicii proiectului;
- Acordă asistență tehnică pentru realizarea obiectivelor proiectului, unde se vor însuma toate rezultatele și cunoștințele dobândite prin proiect;
- Sprijină acțiunile de diseminare și comunicare;
- Monitorizează proiectul pe faze de desfășurare și transmite informații în timp util către toți membrii;

#### VI. Rezultatele asocierii:

- Elaborarea unui plan de comunicare;
- Realizarea de centre de inovație energetică și laboratoare de eficiență energetică cu personal calificat și echipament profesional aferent pentru audituri energetice;
- Dezvoltarea de planuri de eficiență energetică (rapoartele de audit energetic) ca părți principale ale CBCEnergyConcept;
- Stabilirea unui sistem eficient de măsurare a consumului de energie în clădiri;
- Formarea de oameni pricepuți și educați, cu cunoștințe despre economisirea de energie;
- Organizarea de traininguri și întâlniri de lucru pentru echipele de proiect;
- Elaborarea unor instrumente de informare și comunicare a rezultatelor proiectului și realizarea diseminării la nivel local, național și internațional.

Universitatea "Ștefan cel Mare" din Suceava

Responsabil de proiect  
Prof. univ. dr. ing. Radu-Dumitru PENTIUC

Rector,  
Prof. univ. dr. ing. Valentin POPA

UAT MITOCU DRAGOMIRNEI  
Primar Mitocu Dragomirnei  
Radu Constantin REZIUC



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## Content

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## GENERAL BUILDING INFORMATION

The **Cultural Center** building is located in Mitocu Dragomirnei village, Mitocu Dragomirnei commune, Suceava county.

Building construction period: 2008-2013

Owner: Mitocu Dragomirnei commune, Suceava county

The building is oriented with the main facade (town hall entrance) to the southeast.

The construction has a partial basement + ground floor + first floor height regime. The spaces related to the building currently have the following destinations:

Cultural Center			
Ground Floor	[m <sup>2</sup> ]	Floor	[m <sup>2</sup> ]
Room center	301,30	Gr. Sanitary	7,37
Scene	42,19	Living	13,65
Hall	9,41	Kitchen	10,11
Gr. Sanitary	2,38	Storage	11,09
Locker room	9,26	Floor withdrawn	74,34
Locker room	10,11	Staircase	7,30
Staircase	7,25		
Foyer	65,10		
Wardrobe	9,70		
SAS	2,90		
Gr. Sanitary	8,35		
Gr. Sanitary	10,85		
	478,80		123,86



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The resistance structure of the building is composed as follows:

- reinforced concrete columns and beams and BCA masonry closures;
- reinforced concrete floors;
- the roof is made of wooden frame and galvanized sheet metal roof.

The exterior carpentry is made of PVC and double glazing. The free height of the rooms varies between 2.45 m and 6.80 m.

The building is connected to the following utilities:

- electricity supply;
- central heating with static bodies;
- road and pedestrian access.

The heating is made with its own thermal power plant on wood fuel and static steel bodies. The boiler is equipped with 1 THERMOSTAHL 139 kW boiler. The distribution of the thermal agent (hot water with temperature parameters 80/60 °C) is made through an installation with lower distribution, branched type, with forced circulation in bitubular system. The thermal power plant is located in a room in the basement. For the hot water installation there is a boiler with a capacity of 80 l that uses hot water produced by the wood fuel boiler and with the possibility of using electricity.



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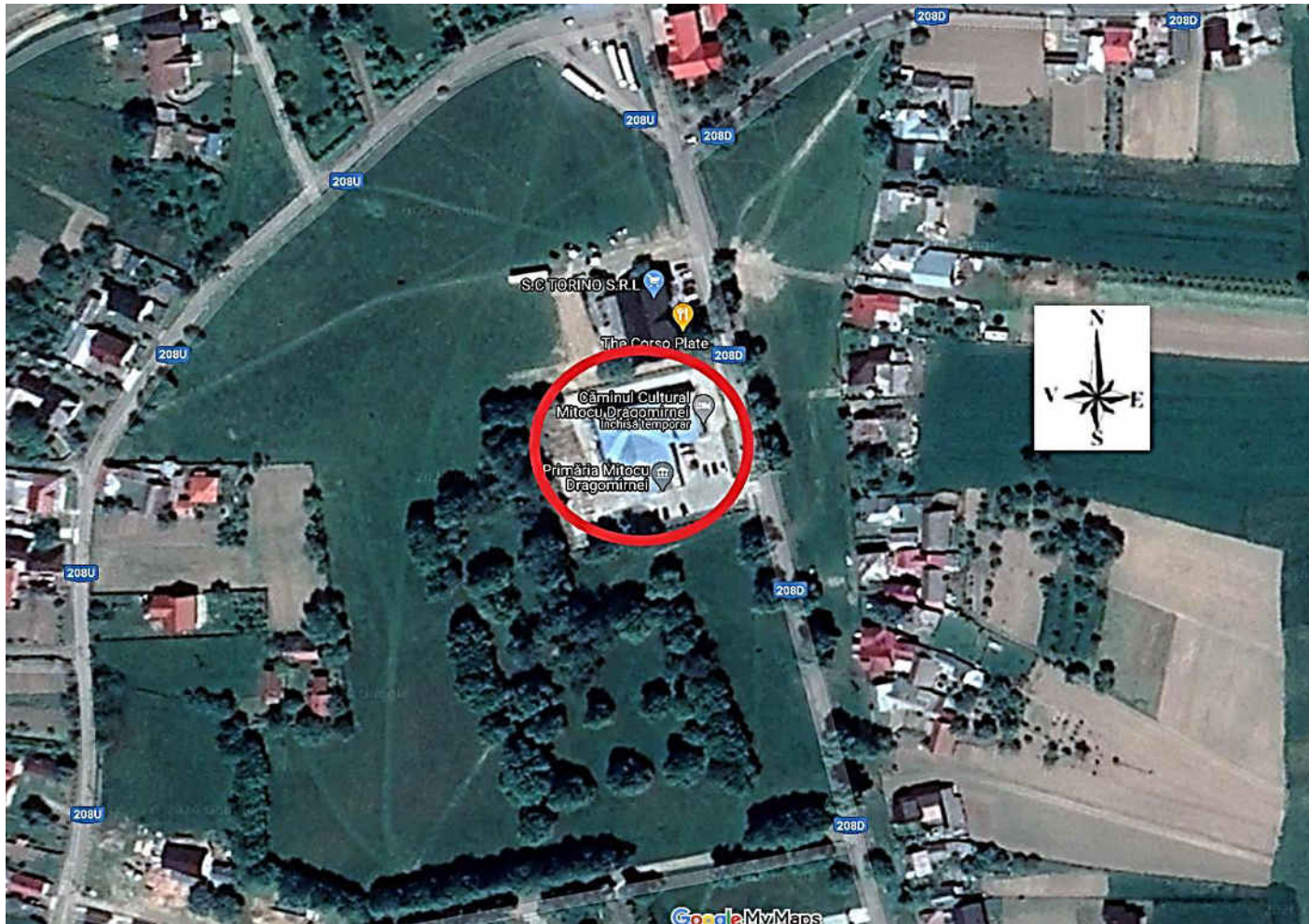


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Situation plan / sketch of the building with indication of the orientation towards the cardinal points, of the distances to the nearby buildings.







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## Centralization of calculation data and results obtained: Solutions package 1

Intervention works	The specific cost [lei/m <sup>2</sup> ]	The estimated cost of works of intervention [thousand lei]	Economy Energy [KWh/year ]	Duration of recovery of investment, N <sub>R</sub> [years]	The cost of energy saved [lei/kWh]
S1. Thermal insulation of exterior walls	166,15	133,8911	64587	7,05	0,1382
S2. Thermal insulation of the upper floor	210,70	164,3460	93579	5,97	0,1171
S3. Heat insulation of the lower floor	149,05	35,7497	12477	9,75	0,1910
S4. Replacement of glazed surface / exterior carpentry	465,50	4,9343	47049	0,36	0,0070

## Solutions package 2

Intervention works	The specific cost [lei/m <sup>2</sup> ]	The estimated cost of works of intervention [thousand lei]	Economy Energy [KWh/year ]	Duration of recovery of investment, N <sub>R</sub> [years]	The cost of energy saved [lei/kWh]
S1. Thermal insulation of exterior walls	166,15	133,8911	64587	7,05	0,1382
S2. Thermal insulation of the upper floor	210,70	164,3460	93579	5,97	0,1171
S3. Heat insulation of the lower floor	149,05	35,7497	12477	9,75	0,1910
S4. Replacement of glazed surface / exterior carpentry	465,50	90,0598	28074	10,91	0,2139
S5. Replacement of the heating source (CT on wood fuel with gasification)	137,20	136,3452	41439	11,19	0,2194





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## Centralization of calculation data and results obtained:

### Solutions package 3

Intervention works	The specific cost [lei/m <sup>2</sup> ]	The estimated cost of works of intervention [thousand lei]	Economy Energy [KWh/year]	Duration of recovery of investment, N <sub>R</sub> [years]	The cost of energy saved [lei/kWh]
S1.Thermal insulation of exterior walls	166,15	133,8911	64587	7,05	0,1382
S2.Thermal insulation of the upper floor	210,70	164,3460	93579	5,97	0,1171
S3.Heat insulation of the lower floor	149,05	35,7497	12477	9,75	0,1910
S4.Replacement of glazed surface / exterior carpentry	465,50	90,0598	28074	10,91	0,2139
S5.Replacement of the heating source (CT on wood fuel with gasification)	137,20	136,3452	41439	11,19	0,2194
S6.Installation of alternative thermal energy production systems	205,80	204,5179	49273	14,12	0,2767
S7.Installation of alternative electricity production systems	34,30	34,0863	3528	15,17	0,6442
S8.Installation of a mechanical ventilation system with heat recovery	245,00	243,4737	18974	20,14	0,8555



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# Conclusions

The implementation of the intervention works proposed by this energy audit has the effect of reducing maintenance costs for utilities, reducing the effects of climate change, reducing greenhouse gas emissions as a result of reducing fuel consumption and improving the architectural appearance of Mitocu Dragomirnei locality.

**The Package of solutions 3 from the energy audit is recommended, which allows the compliance with the minimum energy performance requirements provided in the technical regulation Mc 001 / 1-2006 (completion by Order 2641/2017).**

The following are the most important data from the energy audit:

- specific annual heating energy consumption for the audited building: **357.78 kWh / m<sup>2</sup>year**
- total annual specific primary energy consumption for the audited building: **399.76 kWh / m<sup>2</sup>an**
- specific annual CO<sub>2</sub> equivalent emission index: **11.61 kgCO<sub>2</sub> / m<sup>2</sup>year**
- energy performance of the audited building (energy rating): **66.82**
- overall thermal insulation coefficient G<sub>1</sub> for the audited building: **0.96 W / m<sup>3</sup>K**
- overall thermal insulation coefficient G<sub>1</sub> of the reference building: **0.27 W / m<sup>3</sup>K**

Solutions package 3:

- duration of investment recovery, in conditions of economic efficiency: **11.22 years**
- overall thermal insulation coefficient G<sub>1</sub> for the rehabilitated building: **0.21 W / m<sup>3</sup>K**
- specific annual energy consumption for heating corresponding to the rehabilitated building: **77.93 kWh / m<sup>2</sup>year**
- annual energy saving: **311931.42 kWh / year; 26.82 t.e.p. ; 78.68%**
- specific annual primary energy consumption of the building from non-renewable sources for heating the building: **58.92 kWh / m<sup>2</sup>year**
- specific annual CO<sub>2</sub> equivalent emission index: **4.48 kgCO<sub>2</sub> / m<sup>2</sup>year**
- estimated annual decrease in CO<sub>2</sub> equivalent greenhouse gas emissions: **7,091 tonnes CO<sub>2</sub> / year (7091.34 kgCO<sub>2</sub> / year)**
- specific investment, without VAT (constructions - installations / useful area): **1,049 thousand lei / m<sup>2</sup>a.u.**

As the existing building does not meet the current requirements regarding the energy performance of buildings, **it is recommended the thermal rehabilitation of the building** and the inclusion of the building in the minimum energy performance requirements provided in technical regulation Mc001 / 1-2006 (supplemented by Order 2641/2017):

- global thermal insulation coefficient  $G \leq G_{1ref}$  [W / m<sup>3</sup>K];
- specific annual primary energy consumption from renewable sources for building heating:  $q_{an} \leq q_{an, max}$  ( $q_{an, max} = 60$  [kWh / m<sup>2</sup>an], office building).

At the reception of the building after rehabilitation, the energy performance certificate of the building will be issued (according to Law 372/2005 on the energy performance of buildings) which will certify the new specific consumptions for heating, hot water consumption, air conditioning, ventilation and lighting.



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**DELIVERY-RECEIPT PROTOCOL**

of the **Energy audit** for the building CITY HALL-COMMUNITY CENTER, Mitocu Dragomirnei Commune, Suceava County

In accordance with the association agreement regarding the participation in the project Joint Operational Program Romania-Ukraine 2014-2020, **Cross-Border Cooperation Smart Energy – CBCSmartEnergy**, Project code: 2SOFT/1.2/52, this delivery-receipt protocol is concluded between:

„Ștefan cel Mare” University of Suceava represented by Rector - professor Valentin POPA and Project manager – professor Radu-Dumitru PENTIUC who **hand over**

and

**Territorial Administrative Unit (TAU) Mitocu Dragomirnei** represented by Mayor – Radu Constantin REZIUC, who **receives** the energy audit of the building CITY HALL-COMMUNITY CENTER, Mitocu Dragomirnei Commune, Suceava County, achieved following its rehabilitation and modernization.

Energy audit established for the building CITY HALL-COMMUNITY CENTER, Mitocu Dragomirnei Commune, Suceava County represents deliverable of Activity 3.6 within the mentioned project: „Elaboration of complex energy, power and thermal power audits at the two universities on the basis of locations of the baseline researches identified during round tables and three communities in each region”.

The delivery-receipt protocol was drawn up today, 11.02.2021, in duplicate, one of which was handed over to the beneficiary, **Territorial Administrative Unit (TAU) Mitocu Dragomirnei**, Suceava County.

**I HANDED-OVER,**

Rector,  
Professor Valentin POPA  
Project manager,  
Professor Radu-Dumitru PENTIUC  
Building energy auditor,  
PhD. Eng. Pavel ATĂNĂSOAE

Energy auditor for thermal equipments,  
PhD. Eng. Cezar-Dumitru POPA

**I RECEIVED,**

Mayor  
Radu Constantin REZIUC



This programme is funded by the European Union



Universitatea Ștefan cel Mare Suceava



Romania-Ukraine ENI-CROSS BORDER COOPERATION



**PROCES-VERBAL DE PREDARE-PRIMIRE**



al **Auditului energetic** pentru clădirea PRIMĂRIE-CĂMIN CULTURAL, Comuna Mitocu Dragomirnei, județul Suceava

În conformitate cu acordul de asociere privind participarea în proiectul Joint Operational Program Romania-Ukraine 2014-2020, **Cross-Border Cooperation Smart Energy – CBCSmartEnergy**, număr de proiect: 2SOFT/1.2/52, se încheie prezentul proces-verbal de predare-primire între:

**Universitatea „Ștefan cel Mare” din Suceava** reprezentată prin Rector - prof. univ. dr. ing. Valentin POPA și Director de proiect – prof. univ. dr. ing. Radu-Dumitru PENTIUC care **predă**

și

**Unitatea Administrativ Teritorială (UAT) Mitocu Dragomirnei** reprezentată prin Primar – Radu Constantin REZIUC, care **primește** auditul energetic al clădirii PRIMĂRIE-CĂMIN CULTURAL, Comuna Mitocu Dragomirnei, județul Suceava, în vederea reabilitării și modernizării acesteia.

Auditul energetic realizat pentru clădirea PRIMĂRIE-CĂMIN CULTURAL, Comuna Mitocu Dragomirnei, județul Suceava, reprezintă livrabil al Activității 3.6 din cadrul proiectului menționat: „Elaborarea auditurilor complexe de energie, energie electrică și energie termică, la două universități, pe baza direcțiilor de cercetare identificate în timpul meselor rotunde, și la trei comunități din fiecare regiune”.

Procesul-verbal de predare-primire a fost întocmit astăzi, **11.02.2021**, în dublu exemplar, din care unul a fost predat beneficiarului, **Unitatea Administrativ Teritorială (UAT) Mitocu Dragomirnei**, județul Suceava.

**AM PREDAT**

Rector,  
Prof. univ. dr. ing. Valentin POPA  
Director de proiect,  
Dr. ing. Radu-Dumitru PENTIUC  
Auditor energetic pentru clădiri,  
Dr. ing. Pavel ATĂNĂSOAE

Auditor termoenenergetic,  
Dr. ing. Cezar-Dumitru POPA

**AM PRIMIT,**

Primar,  
Radu Constantin REZIUC