

**PRO-ENERGY**  
**„Promoting Energy Efficiency in Public Buildings  
of the Balkan-Mediterranean Territory“**

**WP3: Joint Regional Analysis, Strategy and Framework“**

**DELIVERABLE NUMBER: 3.3.2**

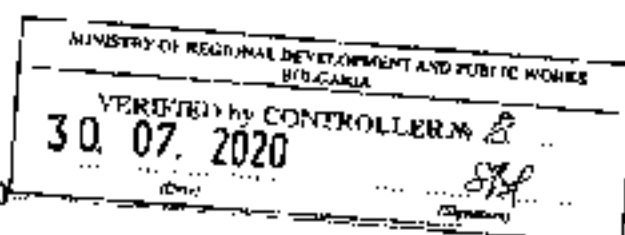
**TITLE OF DELIVERABLE: Good Practices' identification at  
regional/national/international level**

**PARTNER IN CHARGE: Cyprus Energy Agency – CEA**

**BULGARIA**

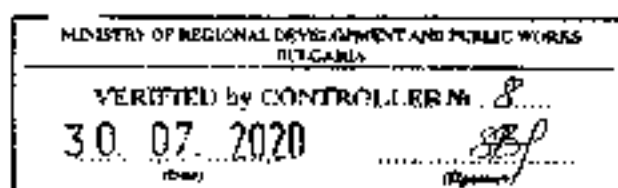
**Regional Development Agency with Business Support Centre for Small and  
Medium-sized Enterprises**

**JUNE 2020**



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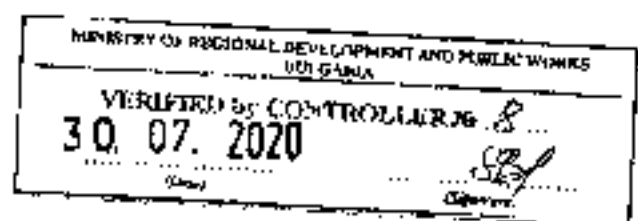


1. **Definition of criteria for selecting good practices on energy efficiency interventions and overall methodology and tools**

According to the Knowledge Forum of FAO UN, "Good Practice is simply a process or a methodology that represents the most effective way of achieving a specific objective" or another way of defining a good practice is "one that has been proven to work well and produce good results, and is therefore recommended as a model". The essence of identifying and sharing good practices is to learn from others and to re-use knowledge. The biggest benefit consists in well-developed processes based on accumulated experience

The criteria that can be used for the identification for an initiative as a good practice are:

- Effective and successful (produce tangible results)
- Improvement of the environment (protecting the environment)
- Improvement in the socio-economic environment of the area / region.
- Socially acceptable (not offend or disturb social attitudes)
- Technically practicable (usable by people in their everyday life)
- Cost effectiveness (affordable alternative of other practices)
- Inherently participatory (common participation of stakeholders, community, partners)
- Replicable and adaptable
- Innovation
- Preservation / sustainability (economic development, social development, and environmental protection)

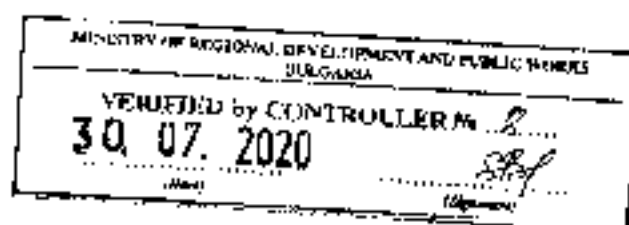


**But what is the aim of a Good practice?**

First, it aims at evolving become better as improvements are discovered. Moreover, it aims at following a standard way of doing things as well as at maintaining quality as an alternative to mandatory legislated standards and can be based on self-assessment and benchmarking .

Regarding the identification of good practices, their aim is to highlight several local / regional / national / European / international good practices related to the energy efficiency interventions in public buildings.

This collection will be achieved via desk research – and/or field research if necessary- according to a specific template, described below.



## 2. Identification of good practices in relation to energy efficiency interventions (focus on public buildings and behavioural change).

**Good practice № 1 Implementation of construction for the renovation of secondary school "Lyuben Karavelov" within the project "Educational Infrastructure - construction and renovation of schools, kindergartens and nurseries in Plovdiv "**

### **Name of the building:**

"Lyuben Karavelov" Secondary School, Plovdiv

### **Title of the good practice**

Implementation of construction works for the renovation of secondary school "Lyuben Karavelov" within the project "Educational infrastructure - construction and renovation of schools, kindergartens and nurseries in Plovdiv "

### **Does this practice come from a European funding Programme?**

Yes  
Procedure BG16RFOP001-1.001-039 "Implementation of Integrated Urban Reconstruction and Development Plans 2014-2020", Priority Axis 1 "Sustainable and Integrated Urban Development" under OP "Regions in Growth" 2014-2020.

### **Short Summary of the practice**

*(This text works as a preview for the good practice and it will appear at card level.) - [max. 160 words]*

The project of the Municipality of Plovdiv "Implementation of construction and installation works related to major repairs, reconstruction, improvement and implementation of energy efficiency measures in two buildings and their adjacent yards of "Lyuben Karavelov" Secondary school in two separate positions: Lot №1 - Renovation of "Lyuben Karavelov" Secondary School, building 1, located at 2 Lyutiche Str., Plovdiv; Construction of a new multi-functional building.

The implementation of the construction works is carried out in accordance with the approved investment project involving all energy saving measures prescribed in the energy audit



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including Measures for utilization of renewable energy sources that lead to compliance of the building with the statutory requirements for energy efficiency and have direct environmental effect.

- An energy audit has been performed - prescribed measures: thermal insulation of walls, thermal insulation of the roof and measures to increase energy efficiency
- Financing: Operational Programme "Regions in Growth" and the Municipality of Plovdiv
- Investments: BGN 271.52 thousand
- Energy saved per year: Electric energy 12.98 MWh / year, Thermal energy / TPP / 30.23 MWh / year Total: 43.21 MWh / year
- CO2 emissions saved 16.40 tons / year

### Detailed information on the practice

*[ Please provide information on the practice itself. In particular:*

*What is the problem addressed and the context which triggered the introduction of the practice?*

*How does the practice reach its objectives and how it is implemented?*

*Who are the main stakeholders and beneficiaries of the practice?]* – (max. 1000 words)]

The good practice is under a project of the Municipality of Plovdiv "Educational Infrastructure" - construction and renovation works of schools, kindergartens and nurseries in the city under axis 1 "Sustainable and integrated urban development" of the Operational Programme "Regions in Growth" 2014-2020.

The funds are intended for the construction of a new kindergarten on Bogomi- Street, major repairs and reconstruction, implementation of energy efficiency measures, improvement of yards, construction of sports grounds and facilities. The various measures affect "Lyuben Karavelov" Secondary School, "Snezhanka" Kindergarten, "Children's Laughor" Nursery, and "Perunika" Kindergarten.

The good practice includes the design of major repairs and reconstruction, implementation of energy efficiency measures, as well as reconstruction and improvement of the adjacent yard of "Lyuben Karavelov" Secondary School - building 1, located on 2 Lyutiche Str., Regulated plot of land - 1-school.

The building is massive with three above-ground and one semi-underground floor. It consists of two separate bodies built at different times.

The main building of "Lyuben Karavelov" Secondary School was built in 1935 - 1936. In 1964 a second building was built, functionally connected with the existing one. The roof is flat, made of reinforced concrete plate with a double-sided slope.

In 2008 the wooden windows of the building were completely replaced with PVC windows without a certificate for thermal conductivity.

The construction is carried out in accordance with the approved investment project, including all energy saving measures prescribed in the energy efficiency survey, including measures for utilization of renewable energy sources, which lead to compliance of the building with the regulatory requirements for energy efficiency and have a direct environmental effect.

Investor: Plovdiv Municipality; code NUTS: BG421

Contractor ST "Metallic - Ivan Mihailov" from Plovdiv, determined by an open procedure under



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the Public Procurement Act.

The activities for implementation are: major repairs and reconstruction, implementation of energy efficiency measures, as well as reconstruction and improvement of the adjacent yard, construction of a new multifunctional hall with a swimming pool at "Lyuben Karavelov" Secondary School, building 1, located on Lyutiche Str. № 2, Regulated plot of land I - school, quarter 445 according to the plan of the First part of the city - north, Plovdiv.

- Total area - 5208.25 sq. m.
- Total school area - 2680.00 sq. m.
- Total sports hall - 2429.44 sq. m.
- Total heating connection - 98.81 sq. m.
- According to Art. 137 of the Spatial Development Act, the site is Third Category.
- Value excluding VAT: BGN 3,559,480.02 or BGN 4,391,376.02 including VAT

The main activities include:

Renovation of the existing building:

- Replacement of facade windows with PVC with double glazing
- Thermal insulation - renovation of facade walls: facade thermal insulation system with EPS base plates, finish, silicone plaster is a plinth of granitogres tiles
- Rehabilitation of roofs - roof thermal insulation system with base plates of stone wool, etc.
- Thermal insulation - renovation of the basement - internal thermal insulation of walls with EPSM internal thermal insulation of floors and ceilings with XPS
- Energy efficient optimization of the electrical installation: installation of energy saving lamps; replacement of internal lighting installation; replacement of power installation; construction of new site lighting and networks
- Internal repair works
- Construction of a new multi-functional building.

Subproject: Multifunctional hall with pool

The building with a multi-functional hall with a swimming pool is located in the eastern part of the yard, providing the necessary easements. A connection between the two buildings is provided.

Additional information:

- Information about the survey/ investigation - prescribed measures: insulation walls, roof insulation
- Implemented measures to increase energy efficiency: thermal insulation walls, thermal insulation roof, replacement of windows
- Ownership: Public-municipal
- Sources of funding: OP "Regions in Growth" and the Municipality of Plovdiv
- Investments: BGN 271.52 thousand
- Energy saved per year: El. energy / 2.98 MWh / year; Thermal energy / TPP / 30.23 MWh / year Total: 43.21 MWh / year.
- CO2 emissions saved: 16.40 tons / year.

Specifically:

Solar installation for DHW at "Lyuben Karavelov" Secondary School



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Installed power 5,152 kW; Energy saved per year - El. energy 3334 kW / year.  
Savings BGN 666.8 / year ; CO2 emissions saved 2.730546 tons / year; Investments total BGN 8,948 .

"Lyuben Karavelov" Secondary School has 2 buildings on 2 sites.

Information for building 2:

This building is not included in the good practice.

Overhaul and reconstruction, implementation of energy efficiency measures, a Secondary as well as reconstruction and improvement of the adjacent yard of "Lyuben Karavelov" Secondary School - building 2, 37 Mara Gidik Str., Regulated Plot of Land I - 520,383, School, quarter 501 according to the plan of First city part - south, Plovdiv

The implementation of the construction will be realized in accordance with the approved investment projects. The planned activities include: major repairs and reconstruction, implementation of energy efficiency measures, as well as reconstruction and improvement of the adjacent yard of "Lyuben Karavelov" Secondary School, building 2, located at 37 Maragidik Street, Regulated Land I - school, quarter 501 according to the plan of the First city part - south, Plovdiv.

Total area of the building - 1805.23 square meters; BGN 2,389,14.85

According to Art. 137 of the Spatial Development Act, the site is the Fourth category

It is performed separately from building № 1.

Building No 1 together with the construction of a new multi functional building is subject to the good practice.

#### Evidence of success

[Why is this practice considered as good? Please provide factual evidence that demonstrates its success or failure (e.g. measurable outputs/results). - (max. 500 words)]

The evidence for success is:

An energy audit was carried out - prescribed measures: thermal insulation of walls, thermal insulation of the roof

Measures have been taken to increase energy efficiency: thermal insulation walls, thermal insulation roof, replacement of windows

Ownership: Public-municipal

Sources of funding are: OP "Regions in Growth" and the Municipality of Plovdiv

Investments: BGN 271.52 thousand

Energy saved per year:

El. energy 12.98 MWh / year; Thermal energy / TPP / 30.23 MWh / year Total: 43.21 MWh / year.

CO2 emissions saved: 16.40 tons / year.

Specific for the solar installation :

Solar installation for domestic hot water at "Lyuben Karavelov" Secondary School

Installed power 5,152 kW; Energy saved per year - El. energy 3334kW/year

Savings BGN 666.8 / year; CO2 emissions saved 2.730546 tons / year; Investments total BGN 8,948.



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## Challenges encountered

*(Please specify any challenges encountered / lessons learned during the implementation of the practice- if applicable) - (max. 300 words)*

The Municipal energy efficiency projects are implemented in accordance with regulations, development of investment projects, public announcement in the Public Procurement Agency and conducting a procedure for selection of contractor and conclusion of a contract and implemented in accordance with the Operational Programme „Regions in Growth“.

The project "Educational infrastructure" of the Municipality of Plovdiv covers 6 schools and kindergartens.

The implementation of the individual projects increases the competence of the municipal employees and of the managements of the schools and kindergartens. The lessons learned are a good basis for future projects and initiatives.

## Potential for learning or transfer

*(Please explain why you consider this practice (or some aspects of this practice) as being potentially interesting for other regions to learn from. This can be done e.g. through information on key success factors for a transfer or on factors that can hamper a transfer. Information on transfer(s) that already took place can also be provided (if possible, specify the country, the region – and organisation to which the practice was transferred) [Technical: A good practice be edited throughout a project life time (e.g. to add information on the transfers that have occurred)]. (max. 1000 words)*

This practice has been developed and implemented in accordance with the Operational Programme "Growing Regions", priority axis "Educational infrastructure" activities. Construction, reconstruction, renovation and equipment of municipal schools;

Priority Axis 2 "Support for energy efficiency in peripheral support centers"

The activities that can receive funding under it include: Implementation of energy efficiency measures in residential buildings, in administrative buildings of the state and municipal administration, and in municipal public buildings of the educational, cultural and social infrastructure.

This practice and others similar are reported in the annual analyses of the implementation of municipal and regional energy efficiency programmes by regions of economic planning in Bulgaria by the Agency for Sustainable Energy Development.

The Operational Programme „Regions in Growth“ „2014-2020 (OPRG) is co-financed by the EU through the ERDF. The implementation of Energy Efficiency (EE) projects and major renovations of existing buildings is an investment priority "Providing support for energy efficiency, smart energy management and the use of renewable energy in public infrastructure, including public buildings and the housing sector" - within the following priority axes:

- Priority Axis 1: Sustainable and integrated urban development;
- Priority Axis 2: Support for energy efficiency in support centres in peripheral areas

The Municipality of Plovdiv also implements other projects such as: Repaired and



reconstructed building stock with implemented energy efficiency measures, landscaped yard of Kindergarten "Snezhanka"; Repaired and reconstructed building stock with implemented energy efficiency measures, landscaped yard of the nursery "Children's Laughter"; Repaired and reconstructed building stock with implemented energy efficiency measures, landscaped yard of the Secondary School "Lyuben Karavelov" - building 2; Repaired and reconstructed building stock with implemented energy efficiency measures, landscaped yard of kindergarten "Perunika"; A new kindergarten was built on Bogomil Street.

#### Further information

{ Link to where further information on the good practice can be found}

<https://www.plovdiv.bg/item/projects/energyefficiency/>

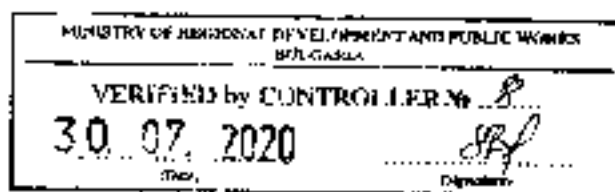
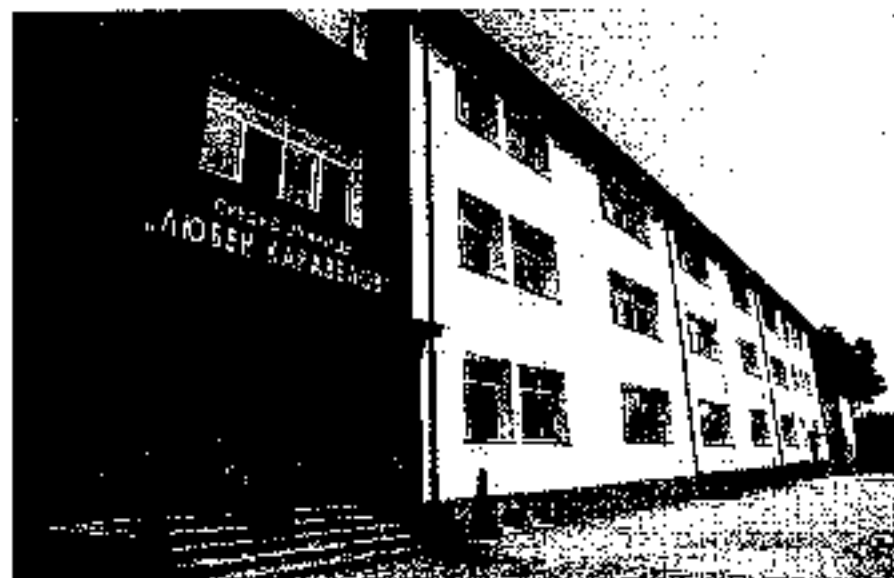
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[http://www.aop.bg/ng/form.php?class=F02\\_2014&id=842105&mode=view](http://www.aop.bg/ng/form.php?class=F02_2014&id=842105&mode=view)

[http://www.aop.bg/case2.php?mode=show\\_doc&doc\\_id=842101&newver=2](http://www.aop.bg/case2.php?mode=show_doc&doc_id=842101&newver=2)

<http://op.plovdiv.bg/?q=page&ldc=index&porachkaid=20180412wQtP6359456>

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**Good practice № 2 Construction and installation work for Increasing the energy efficiency of Plovdiv Language High School under a project funded by the National Trust Ecofund / NTEF /**

**Name of the building:**

Language high school, Plovdiv

**Title of the good practice**

Construction and installation work for Increasing the energy efficiency of Plovdiv Language High School under a project funded by the National Trust Ecofund / NTEF /

**Does this practice come from a European funding Programme?**

No

**Funding is from:**

The National Trust Ecofund (NTEF) was established in October 1995. The fund manages funds provided by the state budget, including under swap transactions to replace "Debt against the environment" and "Debt against Nature"

**Short Summary of the practice**

*[this text works as a preview for the good practice and it will appear at card level.] - (max. 160 words)*

"Construction and installation work for increasing the energy efficiency of" Plovdiv Language High School" under a project funded by the National Trust Ecofund / NTEF /" is a project of the Municipality of Plovdiv

The increase of energy efficiency includes the following types of construction and installation works in the educational building, a dormitory for boys and a dormitory for girls:

- Construction of thermal insulation system and facade plaster on external walls: southern, eastern facade and staircase of the educational building;
- All facades of dormitories for boys and girls, with already about 1/3 of the thermal insulation on the walls of the dormitory for girls;
- Thermal insulation of floors to unheated rooms: gym, warm connection and part of the corridor first floor of School educational building;
- Thermal insulation of bay windows/ jetties; Thermal insulation of ceilings - laying of mineral wool on cold roofs;



- Replacement of non-replaced windows;
- Replacement of internal heating installation;
- Construction of a solar installation for domestic hot water;
- Built-up area by subprojects: Educational building - 1770 sq.m., Dormitory for boys - 552 sq.m, Dormitory for girls - 552 sq.m.

### Detailed information on the practice

*{ Please provide information on the practice itself. In particular:*

*What is the problem addressed and the context which triggered the introduction of the practice?*

*How does the practice reach its objectives and how it is implemented?*

*Who are the main stakeholders and beneficiaries of the practice?} - (max. 1000 words)*

The good practice "Carrying out construction and installation work to increase the energy efficiency of "Plovdiv Language High School" under a project funded by the National Trust Ecofund / NTEF /" is a project of the Municipality of Plovdiv.

The project includes construction and installation works to increase energy efficiency in the Language High School Plovdiv, namely: Educational building of the Language School Plovdiv, dormitory for boys of the Language High School Plovdiv, dormitory for girls of the "Language School Plovdiv, construction of thermal insulation system and facade plaster on external walls: south, east facade and stairwell of the school building, all facades of the dormitories for boys and girls, with already about 1/3 of the thermal insulation on the walls of the dormitory for girls; thermal insulation of floors to unheated rooms; gym, warm connection and part of the corridor of the first floor of Educational building; Thermal insulation of bay windows; thermal insulation of ceilings - laying of mineral wool on cold roofs; replacement of non-renewed joinery; Replacement of internal heating installation; Construction of a solar installation with DHW, Built-up area by subprojects: Educational building 1770 sq.m.; Dormitory for boys, 552 sq.m., Dormitory for girls -552 sq.m. The total quantity and volume is in accordance with Quantitative Value Account and technical specifications, an integral part of the documentation.

Assignor: Municipality of Plovdiv

Public procurement Directive 2014/24/EC/ЗОП - № 000471504

Total value of the contract BGN 980,000, 25

Performed activities on the three buildings of Plovdiv Language High School:

1. Name of the building Language High School Plovdiv - educational building; Total area 3947 sq. m
  - Information for performed inspection - thermal insulation of walls, floor, roof thermal insulation, replacement of joinery, installation of new heating and solar installations
  - Implemented measures to increase energy efficiency: thermal insulation walls, floor, thermal insulation roof, replacement of windows, installation of new heating and solar installations
  - Ownership: Public-municipal
  - Sources of funding: NTEF and the Municipality of Plovdiv



- Investments: BGN 363.97 thousand
  - Energy saved per year: Thermal energy / TPP / 479.63 MWh / year Total: 479.63 MWh / year.
  - CO2 emissions saved 139.09 tons / year
2. Name of the building Plovdiv Language High School - Plovdiv Language High School - Boys' dormitory; Total area 3,015.0 sq. M.
- Information about the performed inspection - thermal insulation of walls, floor, thermal insulation of roof, replacement of joinery, installation of new heating and solar installations
  - Implemented measures to increase energy efficiency: thermal insulation walls, floor, roof insulation, replacement of windows, installation of new heating and solar installations
  - Ownership: Public-municipal
  - Sources of funding: NTEF and Plovdiv Municipality
  - Investments: BGN 319.17 thousand
  - Energy saved per year: Thermal energy / TPP / 287,712 MWh / year Total: 287,712 MWh / year.
  - CO2 emissions saved 83.44 tons / year
3. Name of the building Plovdiv Language High School - Plovdiv Language High School - Girls' dormitory; Total area 3,015.0 sq. M.
- Information about the performed inspection - thermal insulation of walls, floor, thermal insulation of roof, replacement of joinery, installation of new heating and solar installations
  - Implemented measures to increase energy efficiency: thermal insulation walls, floor, roof insulation, replacement of windows, installation of new heating and solar installations
  - Ownership: Public-municipal
  - Sources of funding: NTEF and Plovdiv Municipality
  - Investments: BGN 297,10 thousand
  - Energy saved per year: Thermal energy / TPP / 287,712 MWh / year Total: 280,87 MWh / year.
  - CO2 emissions saved 81.45 tons / year

#### Evidence of success

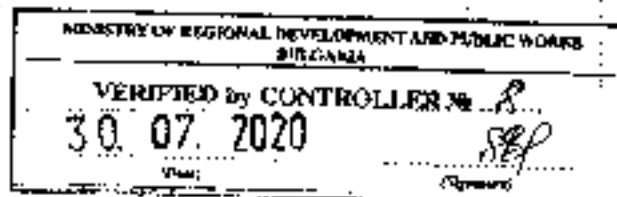
*[Why is this practice considered as good? Please provide factual evidence that demonstrates its success or failure (e.g. measurable outputs/results.) - [ max .500 words]*

The evidences for success is as follows :

1. Name of the building Language High School Plovdiv - educational building; Total area 3947 sq. M.
  - Information for performed inspection - thermal insulation of walls, floor, roof



- thermal insulation, replacement of joinery, installation of new heating and solar installations
- Implemented measures to increase energy efficiency: thermal insulation walls, floor, thermal insulation roof, replacement of windows, installation of new heating and solar installations
  - Ownership: Public-municipal
  - Sources of funding: NTEF and the Municipality of Plovdiv
  - Investments: BGN 363.97 thousand
  - Energy saved per year: Thermal energy / TPP / 479.63 MWh / year Total: 479.63 MWh / year.
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  - Ownership: Public-municipal
  - Sources of funding: NTEF and Plovdiv Municipality
  - Investments: BGN 319.17 thousand
  - Energy saved per year: Thermal energy / TPP / 287,712 MWh / year Total: 287,712 MWh / year.
  - CO2 emissions saved 83.44 tons / year
3. Name of the building Plovdiv Language High School - Plovdiv Language High School - Girls' dormitory; Total area 3,015.0 sq. m.
- Information about the performed inspection - thermal insulation of walls, floor, thermal insulation of roof, replacement of joinery, installation of new heating and solar installations
  - Implemented measures to increase energy efficiency: thermal insulation walls, floor, roof insulation, replacement of windows, installation of new heating and solar installations
  - Ownership: Public-municipal
  - Sources of funding: NTEF and Plovdiv Municipality
  - Investments: BGN 297.10 thousand
  - Energy saved per year: Thermal energy / TPP / 287,712 MWh / year Total: 280,87 MWh / year.
  - CO2 emissions saved 81.45 tons / year



### Challenges encountered

*[Please specify any challenges encountered/lessons learned during the implementation of the practice- If applicable]- [ max. 300 words]*

Municipal energy efficiency projects are implemented in accordance with regulations, development of investment projects, public announcement in the Public Procurement Agency and conducting a procedure for selection of contractor and conclusion of a contract and in accordance with the funding program / institution

The implementation of the individual projects increases the competence of both the municipal employees and the managements of the schools and kindergartens. The lessons learned are a good basis for future projects and initiatives.

### Potential for learning or transfer

*[Please explain why you consider this practice (or some aspects of this practice) as being potentially interesting for other regions to learn from. This can be done e.g. through information on key success factors for a transfer or on factors that can hamper a transfer. Information on transfer(s) that already took place can also be provided (if possible, specify the country, the region – and organisation to which the practice was transferred) (Technical: A good practice be edited throughout a project life time (e.g. to add information on the transfers that have occurred)]- [ max. 1000 words]*

The National Trust Ecofund (NTEF) with its Investment Programme for Climate - Energy Efficiency finances energy efficiency measures in many municipalities of Plovdiv region and South Central region - Rakovski Municipality, Sadovo Municipality, Maritsa Municipality, Parvomay Municipality, Devin Municipality, Momchilgrad Municipality, Haskovo.

The current good practice can be transferred to other high schools and vocational schools in the city of Plovdiv, in all 5 districts (NUTS 3) of South Central Region (NUTS 2).

### Further information

*[ Link to where further information on the good practice can be found]*

<https://www.plovdiv.bg/tem/projects/energyefficiency/>

<http://op.plovdiv.bg/?q=page&cid=incex&poracnkaic-20181001Bion7070694>

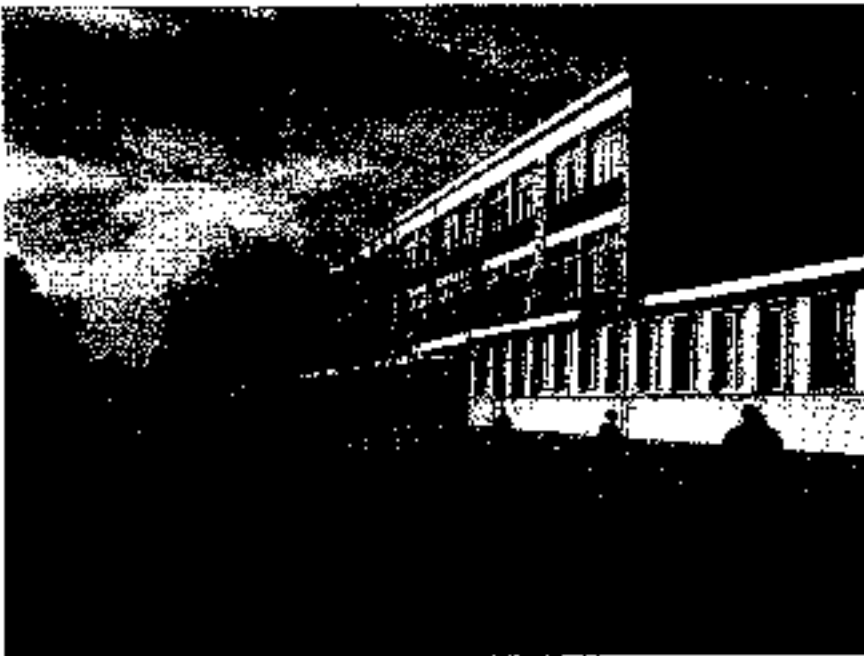
[http://www.aop.bg/ng/form.php?class=F02\\_2014&id=870555&mode=view](http://www.aop.bg/ng/form.php?class=F02_2014&id=870555&mode=view)

[http://www.aop.bg/case2.php?mode=show\\_doc&doc\\_id=870552&newver=2](http://www.aop.bg/case2.php?mode=show_doc&doc_id=870552&newver=2)

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Date

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**Good practice №3 Energy efficiency, improving access for disadvantaged people at the University of Food Technology - Plovdiv and modernization of information services**

**Name of the building:**

University of Food Technologies - Plovdiv

**Title of the good practice**

Energy efficiency, improving access for disadvantaged people at the University of Food Technology - Plovdiv and modernization of information services

**Does this practice come from a European funding Programme?**

Yes

Procedure BG16RFOP001-1.001-039 "Implementation of Integrated Plans for Urban Reconstruction and Development 2014-2020", Priority Axis 1 "Sustainable and Integrated Urban Development" under Operational Programme Regional Development 2014-2020.

**Short Summary of the practice**

*[This text works as a preview for the good practice and it will appear at card level.] - [max. 160 words]*

The project "Energy efficiency, improving the access of disadvantaged people in UFT - Plovdiv and modernization of information services" is to improve the conditions for providing educational services at the University of Food Technology - Plovdiv by improving the energy efficiency of buildings, modernization of the library and ensuring equal access to education for disadvantaged people.

The project is implemented with the financial support of the Operational Programme "Regional Development" 2007-2013, co-financed by the European Union through the European Regional Development Fund, Grant scheme BG161PO001 / 1.1-07 / 2009.

"Support for providing adequate and cost-effective infrastructure of higher education institutions in urban agglomerations".

It includes:

- 2.1. The introduction of energy efficiency measures in educational buildings № 4, № 3 and № 1
- 2.2. Ensuring equal access of disadvantaged groups to the educational service in the educational building № 1;



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2.3. Modernization of the information service in the university library in the academic building No 1;

**Detailed information on the practice**

*[ Please provide information on the practice itself. In particular:*

*What is the problem addressed and the context which triggered the introduction of the practice?*

*How does the practice reach its objectives and how it is implemented?*

*Who are the main stakeholders and beneficiaries of the practice?]* - (max. 1000 words)

This good practice is under Project BG161PO001 / 1.1-07 / 2009/010 "Energy efficiency, improving access for disadvantaged people at the University of Food Technology - Plovdiv", which is implemented with the financial support of the Operational Programme "Regional Development" 2007 -2013, co-financed by the European Union through the European Regional Development Fund", Grant scheme BG161PO001 / 1.1-07 / 2009, "Support for the provision of appropriate and cost-effective infrastructure of higher education institutions in urban agglomerations in three separate positions:

Lot No 1 - Construction and installation work - implementation of energy efficiency measures in educational buildings No 1,3 and 4;

Lot No 2 - Repair of a heating plant and replacement of a boiler room in a educational building No 4;

Lot No 3 - Creating an accessible architectural environment for people with disabilities in a school building No 1;

Regarding:

2.1. The introduction of energy efficiency measures in educational buildings No 4, No 3 and No1

2.2. Ensuring equal access of disadvantaged groups to the educational service in the educational building No 1,

2.3. Modernization of the information service in the university library in the academic building No 1;

The performed activities under the project are as follows:

1. Implementation of energy efficiency measures in educational buildings No 1,3 and 4;
2. Works on facades
3. Educational building 1 - replacement of joinery 1836 m2, waterproofing of the roof 2520 m2 - educational building 3 - replacement of joinery 1017 m2, waterproofing of the roof 1700 m2, thermal insulation of walls and roof 4587 m2 - educational building 4 - replacement of joinery 1089, 50 m2, waterproofing of the roof 2097 m2, thermal insulation of walls and roof 4420.23 m2
4. Repair of a heating plant with a pipe network and replacement of a boiler room in educational building No 4;
5. Complete replacement of the pipe network of the educational building No 4, delivery and installation of a condensing boiler - set with burner, circulating pumps
6. Heat exchange equipment
7. Vertical and horizontal pipe network for educational building No 4, condensing boiler complete with burner and circulating pumps
8. Creating an accessible architectural environment for people with disabilities in the



educational building No1;

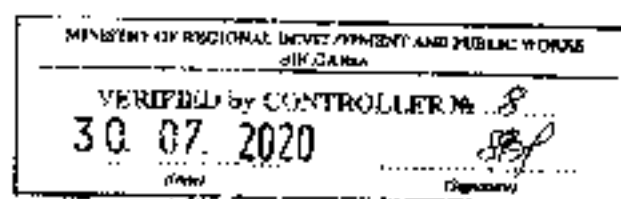
9. Delivery and installation of hydraulic elevator system for people; Load capacity 600 kg, Capacity - 8 people; Glazed panoramic cabin; Double sliding door; Three stops

The following results have been achieved:

- Three of its buildings were renovated by the University of Food Technology in Plovdiv under the project Energy Efficiency, Improving Access for Disadvantaged People and Modernization of Information Services;
- Energy efficiency measures have been implemented, leading to the reduction of consumption and the related harmful emissions of gases and to the improvement of learning comfort;
- Reduction of the costs for maintenance of the building stock and the heating facilities;
- Modernization of the information service in the library of UFT has been performed to support the learning processes and ensure free access to information;
- An accessible architectural environment is provided for the population, including people with disabilities;
- The main building I of the university was built in the 60s of the last century by a project of arch. Zhelyazko Stoykov - a complete replacement of the windows has been made; the current renovation also affects the northern part of building I, in front of the existing main entrance; put a new suspended facade of aluminium profiles with interrupted thermal bridge;
- An elevator with hydraulic drive and three stops was installed, corresponding to the main levels of the layers of the building; A ramp for access of people with limited mobility was built to the entrance area;
- Complete renovation was performed on III and IV buildings; The changes in building III are mainly on the facades, where there is an installation of a thermal insulation layer of HRS panels;
- In building IV a complete replacement of the heating system and the joinery has been carried out, and on the facade the same thermal insulation system has been laid;
- New shelf units in the entire library, including in the branch located in the student dormitories; installed fire alarm system.

Financing: a total of BGN 2,748,129, 85% from European funds under the Operational Programme Regional Development, 10% national co-financing and 5% from the University of Food Technologies - Plovdiv

The investments in the completed project will extend the life of the building and significantly improve its microclimate, as well as reduce energy costs for heating.



### Evidence of success

*[Why is this practice considered as good? Please provide factual evidence that demonstrates its success or failure (e.g. measurable outputs/results).- [ max .500 words]*

The evidences for success are the following:

Three of the buildings were renovated by the University of Food Technology in Plovdiv. It was found that after the introduction of Energy Saving Measures the average heat savings for the year was achieved in the amount of 84.01% of the base energy consumption, and the energy saved for the three heating seasons after the project is 1514,079 MWh. The achieved environmental effect is 305,844 t of saved CO2 emissions. It has been proven that as a result of the saved heat for the studied period (2012-2015) after the introduction of the ESM UFT, 130,165 white certificates will be available.

As a result of the project, we now have a beautiful and energy efficient building with a comfortable microclimate and a modern heating system. The latter is also used to train students. Modernization of the information service in the library of UFT has been carried out to support the learning processes and ensure free access to information. An accessible architectural environment is provided for the population, including people with disabilities.

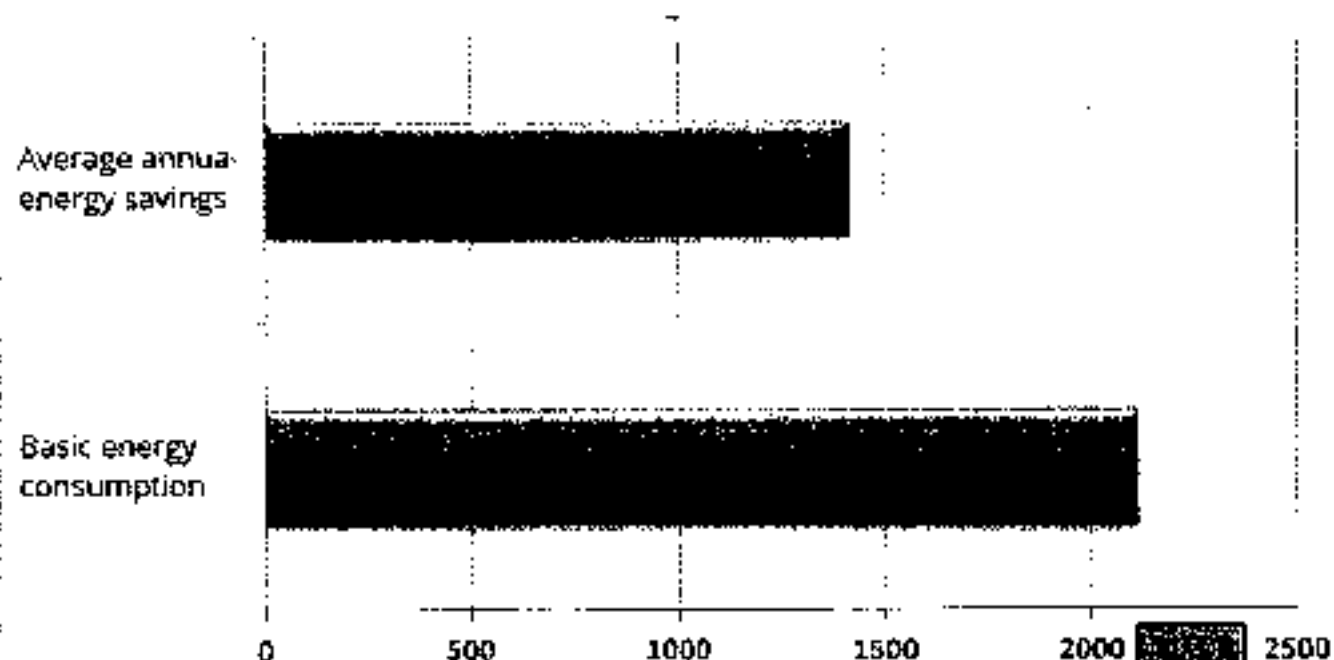
According to the project, complete renovation was carried out on the III and IV building of the University of Food Technology: installation of a thermal insulation layer of HRS panels; complete replacement of the heating system and the windows with a thermal insulation system; supplied natural gas, which is the new source of fuel for the renovated heating boiler, new styling of the entire library, including the branch in the student dormitories; fire alarm system;

### Energy saved for heating compared to the baseline

Indicator	Basic energy consumption, MWh	Energy consumption after ESM, MWh	Energy saved, MWh	Energy saved, %
Average per year	600,734	95,75	504,984	84,06
Average for heating season	600,734	96,041	504,693	84,01



Average annual energy savings relative to the baseline



#### Challenges encountered

*[Please specify any challenges encountered/lessons learned during the implementation of the practice - if applicable]- (max. 300 words)*

The project is implemented under the Operational Program Regional Development 2007 - 2013, co-financed by the EU through the European Regional Development Fund in accordance with regulations, development of investment projects, public announcement in the Public Procurement Agency and conducting a procedure for selection of contractor / and concluding contracts.

The implementation of the project increases the competence and skills of the specialists and associates at the university. The lessons learned are a good basis for future projects and initiatives.

#### Potential for learning or transfer

*[Please explain why you consider this practice (or some aspects of this practice) as being potentially interesting for other regions to learn from. This can be done e.g. through information on key success factors for a transfer or on factors that can hamper a transfer. Information on transfer(s) that already took place can also be provided (if possible, specify the country, the region - and organisation to which the practice was transferred) (Technical: A good practice be edited throughout a project life time (e.g. to add information on the transfers that have occurred)- (max. 1000 word)*

This practice was implemented under Procedure BG16RFOP301-1.001-039 "Implementation of Integrated Plans for Urban Reconstruction and Development 2014-2020", Priority Axis 1 "Sustainable and Integrated Urban Development" under Operational Programme Regional



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## Development 2007-2014.

The project "Energy efficiency, improving access for disadvantaged people at the University of Food Technology - Plovdiv and modernization of information services" is implemented with the financial support of the Operational Programme "Regional Development" 2007-2013, co-financed by the European Union through the European Fund for Food, Regional Development. "Grant scheme BG161PO001 / 1.1-07 / 2009," Support for providing adequate and cost-effective infrastructure of higher education institutions in urban agglomerations.

The project is implemented under the Operational Programme Regional Development 2007-2013, co-financed by the EU through the European Regional Development Fund in accordance with regulations, development of investment projects, public announcement in the Public Procurement Agency and conducting a procedure for selection of contractor / and concluding contracts.

This practice can be transferred under the other Operational Programme "Regions in Growth" 2014-2020, as well as during the programming period 2021 - 2027 in higher education institutions/universities in Plovdiv, South-Central region and in the country.

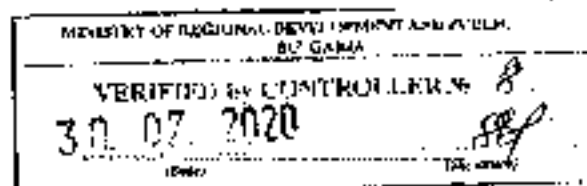
## Further information

*[Link to where further information on the good practice can be found]*

[http://www.aop.bg/case2.php?mode=show\\_doc&doc\\_id=420640&newver=2](http://www.aop.bg/case2.php?mode=show_doc&doc_id=420640&newver=2)

<http://umispublic.government.bg/srchProjectInfo.aspx?ic=35325>

[http://uft-plovdiv.bg/OLD\\_Site/?act=show\\_page&id=744](http://uft-plovdiv.bg/OLD_Site/?act=show_page&id=744)



## Photo







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(Date)	(Signature)



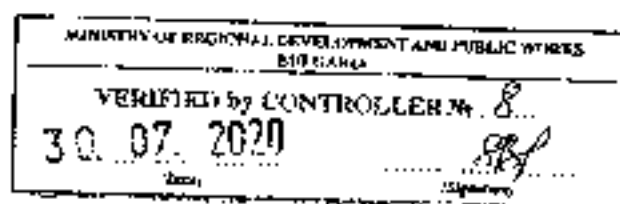
## References:

Energy Savings in Educational Block 4 of UHT, After Implementation of Energy Saving Measure

Violeta Rasnova, Georgi Valtchev, Nikola Kalojanov, Mincho Minchev, Stanislava Tasheva  
University of Food Technologies – Plovdiv; Technical University – Sofia

### Abstract

*Energy audit of the educational buildings of University of Food Technologies (UFT) has been done. A project for renovation of these buildings has been developed and accomplished on this basis. The data from the invoices for heating of Block 4 of UFT throughout three full heating seasons after the project accomplishment have been collected and analyzed. The results show 55.83 % reducing of heating energy consumption according to energy consumption before the project and 84.06% according to the energy base line*



**Good practice №4 Providing of accessible and cost-effective infrastructure of the Medical University - Plovdiv by improving the energy efficiency of buildings and modernization of the library and information centre**

**Name of the building:**

Medical University - Plovdiv

**Title of the good practice**

Providing accessible and cost-effective Infrastructure of the Medical University - Plovdiv by improving the energy efficiency of buildings and modernization of the library and information centre

**Does this practice come from a European funding Programme?**

Yes

European Regional Development Fund ==> Operational Programme "Regions in Growth" 2014-2020

**Short Summary of the practice**

*[This text works as a preview for the good practice and it will appear at card level.] - [max. 160 words]*

The project under contract № BG161PO001 / 1.1-07 / 2009/011 is to provide accessible and cost-effective infrastructure of the Medical University - Plovdiv, by improving the energy efficiency of buildings and modernization of the Library and Information Centre, which is funded by Operational Programme "Regional Development" 2007 - 2013 through the European Regional Development Fund, the state budget of the Republic of Bulgaria and through the university's own funds.

The project is funded under the Grant Scheme BG161PO001 / 1.1-07 / 2009 "Support for providing appropriate and cost-effective infrastructure of higher education institutions/universities in urban agglomerations" under Operational Programme "Regional Development".

The activities are aimed at achieving the following three goals:

- Introduction of energy efficiency measures in the Academic Building of the Medical College.
- Ensuring equal access of disadvantaged groups to educational services.
- Modernization of the Library and Information Centre (LIC).



### Detailed Information on the practice

*( Please provide information on the practice itself. In particular:*

*What is the problem addressed and the context which triggered the introduction of the practice?*

*How does the practice reach its objectives and how it is implemented?*

*Who are the main stakeholders and beneficiaries of the practice?) (max. 1000 words)*

The good practice is the successful implementation of the project "Providing accessible and cost-effective infrastructure of the Medical University - Plovdiv by improving the energy efficiency of buildings and modernization of the Library and Information Centre" worth BGN 2,701,358.57. The project is funded by the Scheme for providing of grants BG161PO001 / 1.1-07 / 2009 "Support for providing appropriate and cost-effective infrastructure of higher education institutions in urban agglomerations" under OP "Regional Development". The financial framework includes co-financing from the European Regional Development Fund in the amount of BGN 2,265,901.92, national co-financing of BGN 249,249.22 and BGN 186,207.43 own contribution of MU - Plovdiv.

The project under contract № BG161PO001 / 1.1-07 / 2009/011 is to provide accessible and cost-effective infrastructure of the Medical University - Plovdiv, by improving the energy efficiency of buildings and modernization of the Library and Information Centre, which is funded by Operational Programme "Regional Development" 2007 - 2013 through the European Regional Development Fund, the state budget of the Republic of Bulgaria and through the university's own funds.

The ten main activities of the project were carried out in the period June 2010 - March 2013 and were aimed at achieving the following three goals :

- Introduction of energy efficiency measures in the Academic Building of the Medical College.
- Ensuring equal access of disadvantaged groups to educational services.
- Modernization of the Library and Information Centre (LIC).

BGN 1,466,966.10 have been invested in the infrastructural and technological modernization of the LIC. The subject of intervention under the project is 4 libraries - the Central and its branches in base 1, the Medical College and the Student Dormitory. The target group includes over 6,500 Bulgarian and foreign students, postgraduates, doctoral students, lecturers, administrative staff and users of LIC.

The performed activities under the project are as follows:

- Construction and installation work for providing accessible and cost-effective infrastructure of the Medical University of Plovdiv by improving the energy efficiency of buildings and modernization of the Library and Information Centre - separate position № 5 "construction and installation work / subproject: energy saving measures of medical college;
- Implementation of energy efficiency measures in the Medical College;
- Carrying out construction and installation activities in the LIC;
- Delivery and installation of equipment for protection and preservation of the library fund;
- Delivery and installation of specialized library equipment and furniture



The renovated library will be used for training and research by students, postgraduate students, teachers and employees of higher medical school.

From implemented activities will benefit 4533 Bulgarian and foreign students who are studying here in undergraduate and graduate programs and 104 graduate students.

Energy efficiency measures in the Medical College through the renovation of the buildings, the replacement of the joinery and the renovation of the installations realize savings in the amount of BGN 1.93 thousand.

The total budget of the project is BGN 2,701,358, provided under the Grant Scheme BG161PO001 / 1.1-07 / 2009 - "Support for providing appropriate and cost-effective infrastructure of higher education institutions/ universities in urban agglomerations".

In mid-October 2014, the Medical University of Plovdiv was awarded in the category "Best University Library" for 2014 in the international competition "Science and Education", organized in Oxford. The competition is held under the auspices of the Rectors' Club of Europe and the Socrates Committee in Oxford and aims to honour the significant achievements of universities, libraries, scientists and students.

The award is an international recognition for the dynamic development of the Library and Information Center and for the European level of information technology infrastructure, resources and services in the following areas:

- Creativity in developing and delivering services and programmes that can be used by other libraries, including those accessible to people with disabilities and special needs
- Use of technologies to increase the interest in the library
- Electronic access
- Innovations in providing public access to computers and the Internet

From a technical point of view, the modernization of the Library and Information Centre is large-scale and includes the construction of local networks, WiFi, video surveillance, Kyocera peripherals, and some of the devices have MyQ for user identification, which students can use on their own identifying and print the content they want. Secure connectivity and identification to online registers and databases with relevant information is provided. NComputing terminal workstations are integrated in a system, a digitalization studio with a book scanner is built. Specialized equipment and software for disadvantaged people, mainly people with reduced or impaired vision, have been delivered. A centralized system for protection and automation in borrowing and returning books based on 3M solutions has been built.

#### **Evidence of success**

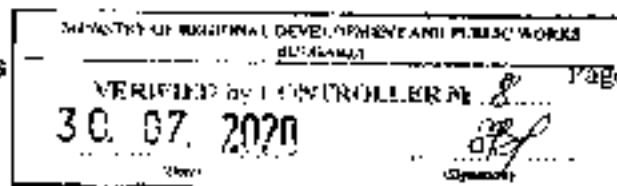
*Why is this practice considered as good? Please provide factual evidence that demonstrates its success or failure (e.g. measurable outputs/results.) (max. 500 words)*

The evidences of success are:

One of the main activities of the project is the implementation of energy efficiency measures in the Medical College. According to the calculations of the project team, through the renovation



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of the buildings, the replacement of the windows and the renovation of the installations, savings in the amount of BGN 193 thousand will be realized annually.

The renovated library will be used for teaching and research activities by students, doctoral students, postgraduates, lecturers and employees of the higher medical school.

In October 2014, the Medical University of Plovdiv was awarded in the category "Best University Library" for 2014 in the international competition "Science and Education", organized in Oxford. The competition is held under the auspices of the Rectors' Club of Europe and the Socrates Committee in Oxford and aims to honour the significant achievements of universities, libraries, scientists and students.

The award is an international recognition for the dynamic development of the Library and Information Center and for the European level of information technology infrastructure, resources and services in the following areas:

- Creativity in developing and delivering services and programmes that can be used by other libraries, including those accessible to people with disabilities and special needs
- Use of technologies to increase the interest in the library
- Electronic access
- Innovations in providing public access to computers and the Internet

#### Challenges encountered

*[Please specify any challenges encountered/lessons learned during the implementation of the practice- if applicable]- [max. 300 words]*

The project is implemented under the Operational Program Regional Development 2007 - 2013, co-financed by the EU through the European Regional Development Fund in accordance with regulations, development of investment projects, public announcement in the Public Procurement Agency and conducting a procedure for selection of contractor / and concluding contracts.

The implementation of the project increases the competence and skills of the specialists and associates at the university. The lessons learned are a good basis for future projects and initiatives.

#### Potential for learning or transfer

*[Please explain why you consider this practice (or some aspects of this practice) as being potentially interesting for other regions to learn from. This can be done e.g. through information on key success factors for a transfer or on factors that can hamper a transfer. Information on transfer(s) that already took place can also be provided (if possible, specify the country, the region – and organisation to which the practice was transferred) (Technical: A good practice be edited throughout a project life time (e.g. to add information on the transfers that have occurred)- [max. 1000 words]*

This practice project under contract № BG161PO001 / 1.1-07 / 2009/011 is to provide an affordable and cost effective infrastructure of the Medical University - Plovdiv, by improving the energy efficiency of buildings and modernization of Library and Information Centre, which is funded by Operational Programme Regional Development 2007 - 2013 through the European



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Regional Development Fund, the state budget of the Republic of Bulgaria and through the university's own funds.

The project is funded under the Grant Scheme BG161PO001 / 1.1-07 / 2009 "Support for providing appropriate and cost-effective infrastructure of higher education institutions in urban agglomerations" under Operational Programme "Regional Development". This practice can be transferred under the other Operational Programme "Regions in Growth" 2014-2020, as well as during the programming period 2021 - 2027.

The project is implemented under the Operational Program Regional Development 2007 - 2013, co-financed by the EU through the European Regional Development Fund in accordance with regulations, development of investment projects, public announcement in the Public Procurement Agency and conducting a procedure for selection of contractor / and concluding contracts.

This practice can be transferred under current and next operational programmes in higher education institutions/universities in Plovdiv, South-Central region and in the country.

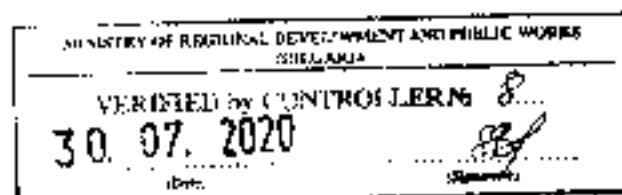
#### Further information

*[Link to where further information on the good practice can be found]*

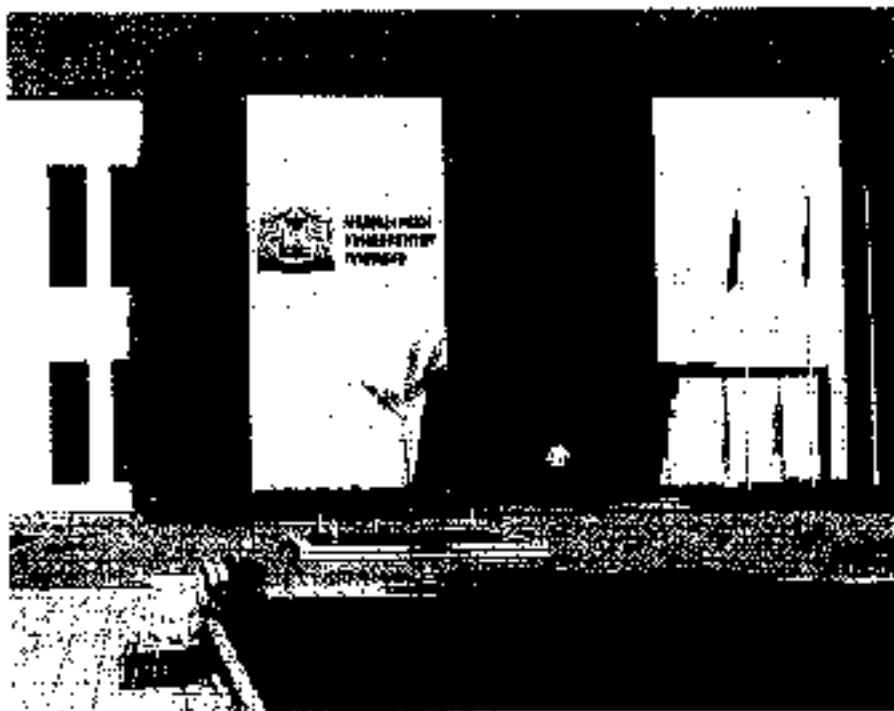
<http://um.spublic.government.bg/srchProjectInfo.aspx?id=35326>

<https://www.pc.tm.eu/portfolios-basis/mu-plovdiv/>

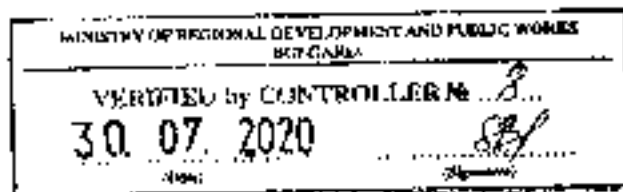
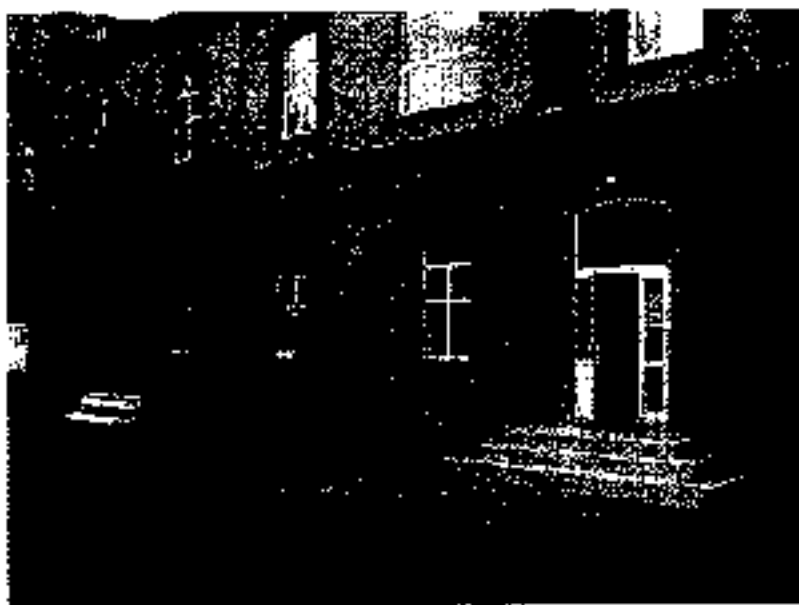
[http://www.aop.bg/case2.php?mode=show\\_case&case\\_id=255452](http://www.aop.bg/case2.php?mode=show_case&case_id=255452)



Photo



The Library





**Good practice № 5 Modernization of the infrastructure and improvement of the quality of the educational environment in the Vocational High School of Food Technologies and Equipment - Plovdiv**

**Name of the building:**

Vocational High School of Food Technology and Equipment (VSFTE)

**Title of the good practice**

Modernization of the infrastructure and improvement of the quality of the educational environment in the Vocational High School of Food Technologies and Equipment - Plovdiv

**Does this practice come from a European funding Programme?**

Yes

European Regional Development Fund => Operational Programme "Regions in Growth" 2014-2020

**Short Summary of the practice**

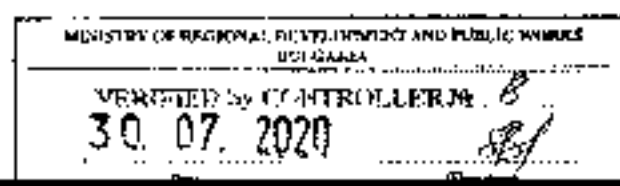
*[This text works as a preview for the good practice and it will appear at card level.] - [max. 160 words]*

The project "Modernization of the infrastructure and improvement of the quality of the educational environment in VSFTE - Plovdiv", under Procedure BG16RFOP001-3.002 "Support for vocational schools in the Republic of Bulgaria", under the Operational Programme "Regions in Growth" 2014-2020, Grant Agreement № BG16RFOP001-3.002-0034-C01.

The physical educational environment of VSFTE has improved.

- The building stock Modernized, including - introduction of energy efficient measures in accordance with European standards;
- The material and technical base of the school has been updated;
- The attractiveness of vocational education and training for young people was increased;
- The number and employment of young professionals with specific skills and qualifications corresponding to the needs of the regional sector increased.

The implementation of the Project has created an opportunity for a better and quality educational environment, which increases the attractiveness of the school, respectively - the professional fields offered in it, which factors contribute to increasing interest in them by students and future employers.



### Detailed information on the practice

*[Please provide information on the practice itself. In particular,*

*What is the problem addressed and the context which triggered the introduction of the practice?*

*How does the practice reach its objectives and how it is implemented?*

*Who are the main stakeholders and beneficiaries of the practice?]* - [max. 1000 words]

The good practice is under a project of the Municipality of Plovdiv "Educational Infrastructure" - construction and renovation of schools, kindergartens and nurseries in the city under axis 1 "Sustainable and integrated urban development" of the Operational Programme "Regions in Growth" 2014-2020.

Under Priority Axis 3 "Regional Educational Infrastructure", the Municipality of Plovdiv implements the project "Modernization of the infrastructure and Improvement of the quality of the educational environment in the Vocational School of Food Engineering and Equipment / VSFE /".

A project is of the Municipality of Plovdiv, financed by the ERDF, Operational Programme "Regions in Growth" and the national budget, with the beneficiary Vocational High School of Food Technology and Equipment, Plovdiv:

Procedure BG16RFOP001-3.002 "Support for vocational schools in the Republic of Bulgaria" Operational Programme "Regions in Growth" 2014-2020.

The implementation of the project led to the creation of a favorable corresponding to time educational environment through the designed complex activities contributed to improving the quality and conditions of education of young people in the city of Plovdiv, wishing to receive specialized training and specific expertise to help their future realization on the labour market.

The implementation of the project provides an opportunity for a better and quality environment for education, corresponding to modern requirements. The material and technical base of the school has been improved in accordance with the modern and professional training that the students receive.

Within two years, the activities related to energy efficiency measures were implemented (hydro and thermal insulation, radiators and vertical heating pipes were replaced, providing an accessible environment, delivery, installation, equipment and furnishing of 4 laboratories - 1 microbiological, 2 physical-chemical, 1 in inorganic and organic chemistry, two rooms for practical training in quality control and food and beverage safety, training workshop on refrigeration, air conditioning and heating equipment.

Energy efficiency audit report on the investigation was carried out of the existing building to establish the technical performance of building on effect on subsequent execution: technical inspection and made recommendations for building VSFE - Plovdiv from 2015., Update technical passport and issued a valid certificate energy efficiency with a prescription for achieving energy class "B", according to Energy Efficiency Act.

The planned and implemented justified measures related to the overall implementation of the construction and installation works contributed to the complex renovation of the building, together



with the previous repairs carried out by the school management, thus achieving synergy of interventions and overall modernization of the educational infrastructure of VSFTE - Plovdiv.

The Municipality of Plovdiv, as a conductor of policies of great public interest at the local level, responsibly accepts its commitment and in its role of a good manager planned to implement the prescribed measures in accordance with the deadlines and frameworks, as the applicable legislation and the requirements of Operational Programme "Regions in Growth" 2014-2020.

Delivery and installation of equipment for VSFTE - Plovdiv to acquire relevant skills and competencies to serve their future life and professional realization, it provides a complete update of the material and technical base for the education of children in the following professional areas: ecology and environmental protection, food and beverage technology, food quality and safety control, heat engineering, refrigeration and air conditioning; equipment in the food industry, technological and microbiological control of food, etc.

The aid in the form of targeted grants provided for the improvement of the educational infrastructure under the Grant Procedure BG16RFOP001-3.002 "Support for Vocational Schools in the Republic of Bulgaria", Operational Programme "Regions in Growth" 2014 - 2020, will help not only to optimize and renew the training equipment and furnishing, but also for the release, in the future, of additional own financial resources, which, compensated by the measures taken under the scheme of the Program, will be redirected and invested in real educational activities, which will improve the daily training provided in VSFTE -gr. Plovdiv and will create an opportunity for the application of more complex and effective educational tools related to the essence of the professional fields taught at the school.

#### Tender procedure 1

"Delivery and installation of specific equipment for classrooms furniture for classrooms for VSFTE - Plovdiv" in three separate positions:

Lot 1: 1. Delivery and installation of specific equipment for classrooms

Lot 2: 2. Complement to an existing solar installation

Lot 3: 3. Delivery and installation of solar panels for domestic hot water

#### Tender procedure 2

"Delivery and installation of specific equipment for classrooms for VSFTE - Plovdiv", in 2 / two / separate positions:

Lot 1: 1. Complement to an existing solar installation

Lot 2: 2. Delivery and installation of solar panels for domestic hot water

#### Tender procedure 3

"Delivery and installation of specific equipment for classrooms furniture for classrooms for PGHTT - Plovdiv", in three separate positions:

Lot 1: 1. Delivery and installation of specific equipment for classrooms

Lot 2: 2. Complement to an existing solar installation

Lot 3: 3. Delivery and installation of solar panels for domestic hot water



Total value of the contract financed under the project:

Total value of the project: Grant is BGN 1,399,985.87 with VAT (including 85% ERDF financial contribution - BGN 1,189,987.99 with VAT, National co-financing 15% - BGN 209,997.88 with VAT).

### Evidence of success

*[Why is this practice considered as good? Please provide factual evidence that demonstrates its success or failure (e.g. measurable outputs/results).- [ max. 500 words]*

### Evidence of success is as follows:

The school has been renovated; there is a new waterproofing of the roof and new PVC windows.

Delivered and installed specific equipment for classrooms: Contractor: "Gaia-99-Test" Ltd.

They are supplemented to an existing solar installation; Delivery and installation of solar panels for domestic hot water: Contractor: "Fikab Solar" Ltd.

Delivery and installation of solar panels for domestic hot water.

The implementation of the project led to the creation of a favorable, timely educational environment, which through the complex activities envisaged in the project contributed to improving the quality and conditions of training of young people in Plovdiv wishing to receive specialized vocational training and specific expertise to help their future realization on the labor market

The opening of the renovated building of the Vocational School of Food Technology and Equipment was on December 4, 2018.

### Challenges encountered

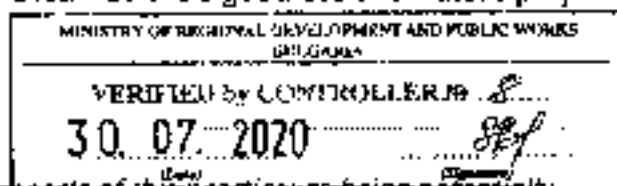
*[Please specify any challenges encountered/lessons learned during the implementation of the practice- if applicable] [ max. 300 words]*

The municipal energy efficiency projects are implemented in accordance with the regulations, development of investment projects, public announcement in the Public Procurement Agency and conducting a procedure for selection of a contractor and conclusion of a contract. In accordance with the Operational Programme "Regions in Growth".

The implementation of the project increases the competence of the municipal employees and the management of the vocational high school. The lessons learned are a good basis for future projects and initiatives.

### Potential for learning or transfer

*[Please explain why you consider this practice (or some aspects of this practice) as being potentially interesting for other regions to learn from. This can be done e.g. through information on key success factors for a transfer or on factors that can hamper a transfer. Information on transfer(s) that already took place can also be provided (if possible, specify the country, the region – and organisation to which the practice was transferred) [Technical: A good practice be edited throughout a project life time (e.g. to add information on the transfers that have occurred)- [ max. 1000 words]*



This practice was implemented under the Operational Programme "Regions in Growth" 2014-2020 (OPRG), co-financed by the EU through the ERDF, under Priority Axis 3 "Regional Educational Infrastructure", Procedure BG16RFOP001-3 002 "Support for vocational schools in the Republic of Bulgaria", under OP "Regions in Growth 2014 - 2020", and aims to build a favorable environment in line with modern educational requirements, which, through relevant optimization, to help provide adequate training services in conditions consistent with national and European standards for quality, suitability and correspondence with the needs of students and stakeholders - business and future employers.

The project of the Municipality of Plovdiv, funded by the ERDF, OPBG and the national budget, with a beneficiary Vocational High School of Food Technology and Technics, Plovdiv with potential and opportunity for learning and transfer to other vocational high schools in Plovdiv, Plovdiv District, South Central region and in Bulgaria as a whole under the Operational Programmes and their measures in the next programming period 2021 - 2027.

#### Further information

*[ Link to where further information on the good practice can be found]*

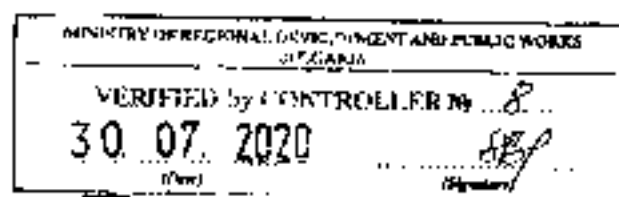
<http://2020.eufunds.bg/bg/0/0/Project/Procurements?contractId=iPTEIwBwIqQ%3D&isH-store=FALSE>

<https://www.plovdiv.bg/53109/>

<https://trafficnews.bg/obshtestvo/otkrivat-obnovenata-sgrada-profesionalnata-gimnazia-po-123946/>

<https://plovdivnow.bg/plovdiv-raion-centralen/zhit-obnova-sgrada-1-400-000-ly-10910>

<https://www.oght.net/projects/modernizacija-na-infrastrukturata-i-podobryavane-kachestvoto-na-obrazovatelната-sreda/>



Photo



MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC WORKS  
BULGARIA

VERIFIED BY CONTROLLER DR. S.

30. 07. 2020

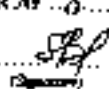
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VERIFIED by CONTROL LER NO. 8  
30.07.2020  
(Date) 



### 3. Annexes

### 4. References

