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# Implementation of Sustainable Energy Action Plan 2016-2020

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# Buzau Municipality - Location



- in the historical region of *Muntenia*;
- between the south-eastern curvature of the *Carpathian Mountains*;
- at the crossroads of the three
- main Romanian historical provinces: *Wallachia, Transylvania and Moldavia*;
- in the northern limit of the city is the *Buzău river*.



# Buzau Sustainable Energy Action Plan (SEAP) 2016-2020

The Sustainable Energy Action Plan is a key document that shows how Buzău Municipality honors its commitment as a signatory of the Covenant of Mayors until 2020.

The Sustainable Energy Action Plan (SEAP) it was designed in order to understand the challenges posed by climate changes and the increasingly drastic effects they bring every year. The implementation of SEAP aims to raise awareness of the population and all interested factors in a sustainable local development of Buzau, through economic growth, environmental protection and increasing the quality of life of the citizens.



# SEAP OBJECTIVES

The Sustainable Energy Action Plan was carried out in accordance with energy and environmental policies of the European Union, but taking into account, at the same time, the strategic and programmatic documents in force and also the local needs.

## SEAP Purpose and objectives

- To ensure on the short and medium term implementation of local policies formulated by the Integrated Urban Development Strategy of the municipality;
- To implement energy efficiency measures;
- To implement renewable energy projects and other energy actions in various areas of activity of local authorities;
- To implement programs and actions to save energy in buildings;
- To implement measures to reduce energy consumption and the scope of Community public utility services;
- To provide a coherent local energy plan, financially and politically supported by the local community.

# Main targeted sectors

The priority objective of the SEAP was to reduce greenhouse gas emissions by 20% compared to the reference year 2015 (emission inventory assessment) - and to promote investments in the Municipality of Buzau in order to lead to the efficient use of energy by improving energy performance or the development of energy-efficient buildings, installations, equipment and technologies, including viable renewable energy sources.

## The main targeted sectors were:

- ❖ Transport Sector;
- ❖ Energy Sector;
- ❖ Residential Sector;
- ❖ Institutional Sector;
- ❖ Waste Sector;
- ❖ Green Spaces Sector;
- ❖ Water Sector;
- ❖ Industrial Sector.

# Buildings

Increasing the energy performance of buildings is an action of major and general interest in the context of saving energy in buildings, improving the built urban environment and protecting the environment.

The energy performance of buildings include the following performance indicators:

- ❑ energy class;
- ❑ total specific energy consumption;
- ❑ CO<sub>2</sub> equivalent emission index.



# Actions: steps we took

In order to increase energy efficiency, during 2017-2020 the Municipality of Buzau carried out several projects using EU funds:

**The total amount of the investment – 19.7 mil euro**

**The allocation from EU 60%, Municipality and Direct Beneficiaries 40%**

## 1. Residential Buildings

Intervention works in order to increase the energy performance of apartment buildings 18 units (the works have been completed) – 876 apartments, 2670 direct beneficiaries

- 9 units projects under the approval – 720 apartments, 1896 direct beneficiaries;
- 95 projects in the design phase (2021-2023) – 5760 apartments, 20.160 direct beneficiaries;



# Actions: steps we took

## 2. Public Buildings

Under the Priority Axis 3 „Supporting energy efficiency, intelligent energy management and renewable energy use in public infrastructures, including in public buildings and in the housing sector” – 2014-2020 Regional Operational Program (Rebus Policy Instrument) - the amount of the investments – 8 mil euro

Average municipality co - financing rate: 36% from the total amount of the investment

- ❖ 5 projects (5 schools) under implementation that envisage rehabilitation works in order to increase the energy efficiency of public buildings. The main works are similar with the ones in residential buildings.

Apart from these obligatory works, there will be implement in every building:

- Circular economy concept – green roofs and greenhouses in order to use rain water
- Photovoltaic panels
- Heating systems using thermal power plants with pyrolysis (using municipal waste) - is a process of transformation or thermal decomposition of compounds or organic chemicals under high temperature and airless conditions
- Building Management Systems – that controls and monitors the building's mechanical and electrical equipment.



# Impact of projects implementation in terms of energy efficiency

## Results after the energy audit of the buildings

4 indicators were monitored and measured initially and after 1 year for 9 buildings:

-Estimated annual level of greenhouse gases (equivalent to tones of CO<sub>2</sub> – an average decrease of 48%

-Annual primary energy consumption (kWh / year) - an average decrease of 64%

-Specific annual energy consumption for heating (kWh / m<sup>2</sup> / year) - an average decrease of 46%

-Specific annual energy consumption (kWh / m<sup>2</sup> / year) - an average decrease of 52,2 %





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*Thank you!*

