

**Technical design specification for the development of
the Common concept of intelligent energy in the target border regions
«CBC-Energy-Carpathian»**

Within the framework of:

the project HUSKROUA/1702/6.1/0014

«New Energy Solutions in Carpathian area (NeSiCA)» - hereinafter NeSiCA.

1. General requirements

1.1. The Common concept of intelligent energy in the target border regions

«CBC-Energy-Carpathian» (hereinafter – **Energy Concept**) is designed to achieve specific **Objective 2 of the NeSiCA Project**:

Raise awareness, competence and skills of the population in border regions about global reductions in greenhouse gas emissions and opportunities for the use of renewable energy sources (hereinafter– RES).

1.2. The Energy Concept should indirectly contribute to the achievement of a synergetic effect while also achieving the other two special objectives of the NeSiCA Project:

1. Provide a strategic approach to energy efficiency and RES in the border regions.

2. Joint efforts to increase currently low energy efficiency (in target border regions and communities).

1.3. The Energy Concept should include sections and data on **methodological, analytical-diagnostic, legal** (including international legal acts and strategic and policy documents), **urban planning, environmental, technical, economic and social aspects and approaches** in achieving the main goal of the NeSiCA Project.

1.4. Taking into account the multifactor analysis and recommendations to promote the achievement of the main goal and special goals, the Energy Concept must comply with **the principles of sustainable development of the territory and communities**, ie, comply with harmonization (coordination, balance) of economic, environmental and social components.

1.5. The Energy Concept in terms of its provisions, recommended approaches, methods and technical solutions, environmental, economic and social significance

should remain **relevant and in demand** by target communities in the target border regions of the Carpathian region **in the medium term for at least 8-10 years**.

2. Specific requirements

2.1. The Energy Concept should be consistent with both EU policy documents and strategies in the areas of energy development and climate, and with the national legislation of Ukraine, Hungary, Slovakia and Romania in these areas (whose border areas and communities are targeted in the NeSiCA Project), as well as – if available – with current regional strategies and programs for the development of border target regions in terms of target systems in the areas of energy development and climate.

2.2. The Energy Concept must be in line with the current EU strategy for the Danube region and in particular with its strategic priority: **2. Promoting Sustainable Energy** and Strategic Priority; **5. Environmental Risk Management**; as the target border regions of the NeSiCA Project are also areas directly covered by the EU Strategy for the Danube Region.

2.3. The Energy Concept among the proposals and recommendations of **technical solutions** to increase energy efficiency and reduce greenhouse gas levels in cities and villages of the target border regions should offer those characterized by the following steps:

- **innovation**;

-**SMART** (in terms of availability of available sources of funding in the community budget or other programs, in particular, international donor technical assistance, government subventions, public-private partnerships, etc.);

- **focus on the implementation of RES** with the simultaneous preservation of the environment and the inexhaustible use of local natural resources (environmental friendliness);

-**efficiency** (in terms of achieving both high energy efficiency and reducing greenhouse gas emissions);

-**cost-effectiveness** (achievement of a highly professional approach to the development of feasibility study – feasibility study – for the proposed technical solution and investing in its implementation).

2.4. The Energy Concept, in terms of its structural parts, should serve as a **basis** for developing a **training program on energy development and climate in communities**, which can be modified by educational and content components depending on **age and**

professional categories of students in communities (students and youth; entrepreneurs). Employees of budgetary institutions and utilities, local government officials, retirees).

2.5. The Energy Concept should have a subsection: **`List of key criteria and indicators for the implementation of the Concept in communities.** `In this case, in addition to indicators and indicators for various types and technical solutions of implemented RES or energy efficiency measures, **the following should be considered basic:**

- **% reduction of greenhouse gas emissions** compared to the base year 2020;
- **estimated savings in greenhouse gas emissions** for the period of implementation of the NeSiCA Project and in 5 years from the base year 2020, **tons**;
- **% reduction of energy consumption** compared to the base year 2020;
- **estimated energy savings** during the implementation of the NeSiCA Project and after 5 years from the base year 2020, **MW/h per year.**

3. The Energy Concept should focus the attention of the target communities and local authorities of the target border regions **on the optimal and balanced use of:**

- **available own available on the territory of natural energy resources** (hydro and wind energy, solar radiation, geothermal, natural biofuels, etc.);
- **modern and innovative technical and technological solutions** and RES equipment, as well as - energy efficient public transport with modernized roads and road infrastructure, new mobility strategies, etc .;
- **integrated complex approaches** in solving the most acute problems of energy efficiency of communal energy and energy consumption of budgetary institutions, business, public sector and private housing and street lighting.