PROJECT FICHE

Project title	**Thermal Insulation of a Residential Building in Jiu Valley, Hunedoara County**
Sector	Local and regional authorities
Location	*Residential building in Jiu Valley, Hunedoara County, Romania*
Project purpose	*To improve energy efficiency in a residential building through thermal insulation and related energy-saving measures, leading to lower energy consumption, reduced greenhouse gas (GHG) emissions, and improved living conditions for residents.*
Beneficiaries of the project	· *Residents of the 4-story residential building.* · *Local authorities in Jiu Valley.* · *Local contractors and businesses involved in the implementation of the project.*
Project relevance and need	*The residential building faces high energy consumption due to poor insulation, leading to increased heating costs and higher GHG emissions. Given the ongoing just transition efforts in Jiu Valley, where coal mining is being phased out, this project aligns with the region's need to transition towards more sustainable and energy-efficient infrastructure.* *The project will help reduce energy costs for residents, enhance the thermal comfort of the building, and contribute to Romania's goals for increasing energy efficiency and carbon emissions reduction.* *The project addresses the following:* · *Reducing energy consumption and improving the energy performance of residential buildings.* · *Improving comfort and health conditions for the residents.* · *Supporting the local economy by employing local contractors for construction works.*
Implementing actor	*Local authority, together with tenants' association*
Activities	*1. Planning - Energy Audit and Feasibility Study:* *·Conduct an energy audit to assess current energy performance of the building and identify the most effective insulation measures.* *2. Engineering – Basic and Detail Design:* *·Develop technical designs and plans for insulating the exterior walls, roof, and basement.*

	·Identify the materials and technologies to be used for insulation and ensure they meet energy efficiency standards. ·Prepare the tender documents. 3. Procurement and Contracting: ·Open tenders for local contractors to carry out the insulation work. ·Selection of contractors and purchase of necessary materials. 4. Implementation - Insulation Installation: ·Installation of exterior thermal insulation on walls, roof, and basement. ·Replacement of windows and doors if necessary for better insulation. ·Installation of energy-efficient lighting in communal areas. 5. Monitoring and Quality Control: ·Monitor the construction process to ensure it adheres to the project specifications. ·Conduct quality control checks to verify energy efficiency improvements. 6. Public Awareness Campaign: ·Inform residents about energy-saving behaviours and how to optimize energy use post-insulation.
Expected result(s)	· Improved energy efficiency of the building, reducing energy consumption for heating by up to 40%. · Estimated annual energy savings: 150 MWh/y. · Estimated GHG emission reduction: 100 tCO2 eq./y. · Enhanced thermal comfort for building residents. · Reduced heating costs for residents. · Contribution to regional and national energy efficiency goals.
Expected contribution(s) and impact(s)	· Reducing primary energy consumption for heating by up to 40%. · Estimated annual energy savings: 150 MWh/y. · Estimated GHG emission savings: 100 tCO2 eq./y.
Institutional framework	· Project led by local authorities of Jiu Valley. · Supported by regional development agencies and relevant ministries for funding, fiscal incentives or subsidies. · Local contractors engaged for the insulation work.
Budget	Total estimated project/investment costs: 120,000 EUR · Energy audit and feasibility study: 10,000 EUR · Basic and Detail Design: 15,000 EUR · Implementation - Insulation materials and installation: 80,000 EUR

	• *Smart metering systems and public awareness campaign: 15,000 EUR*
Sources of funding or financing	• *Just Transition Fund* • *EU Cohesion Policy funds* • *Contributions from residents and local authorities* • *National energy efficiency programs*
Implementation schedule	• *Start of tendering and call for proposals: January 2025* • *Start of insulation installation: March 2025* • *Completion of project: December 2025*
Sustainability	• *The building will achieve lower energy consumption, reducing heating costs for residents, which will make the project financially sustainable for them.* • *The project will support the local economy by creating jobs and demand for locally sourced insulation materials.*
Replication	*Replication* *This pilot project can be replicated in up to 200 similar residential buildings across the Jiu Valley region.* *Estimated cumulative impact from replication}* • *Total investment: ~24 million EUR (200 buildings × 120,000 EUR)* • *Energy savings: ~30,000 MWh/year (200 × 150 MWh)* • *GHG emissions reduction: ~20,000 tCO_2/year (200 × 100 tCO_2)* • *Potential integration with RES (solar thermal/photovoltaic): enabling complementary savings of up to 2,000 MWh/year* *This scaling approach aligns with national energy efficiency goals and can significantly contribute to regional decarbonisation targets.*

ABOUT

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