



**UNITED STATES AGENCY FOR
INTERNATIONAL DEVELOPMENT**

Enterprise Energy Efficiency (3E) Project

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Task Order # 12

***LIVNO PILOT PROJECT SPORTS HALL
FACT SHEET***

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Implemented by:
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USAID | BOSNIA-HERZEGOVINA

FROM THE AMERICAN PEOPLE

Energy Efficiency Project of the Sports Hall “Dalibor Perković - Dali” in Livno

The Sports Hall is located near downtown Livno and is the center of town’s sports activities. It was built in the 1982, with a thermally insulated roof and outside walls. Due to improper maintenance the roof covering needed to be replaced, which was partially done in 2010. The windows were single paned and caused high heat loss, and combined with frequent interruptions in heating, resulted in low temperatures in the hall and inadequate thermal comfort. Because of the very high cost of fuel oil, the heating in the sports hall was often turned off to save money.

To reduce costs and use a local energy source, the sports hall was connected to the existing district heating network based on biomass boilers. The type of biomass used is waste biomass - wood waste from the wood processing industry. Solar thermal panels were installed on the roof for heating domestic hot water. New windows and doors were installed to reduce heat loss, as well as thermally insulated façade. Installation of a Monitoring and Verification System for heat consumption with outside temperature and average inside temperature will provide the necessary information to improve the energy efficiency of the building.

Implemented Energy Efficiency measures:

- Installation of district heating supply line
- Installation of a heating substation in the Sports Hall building
- Overhauling of the existing heating and ventilation system
- Installation of solar thermal panels for heating domestic hot water
- Replacement of windows and doors
- Replacement of a part of the roof covering
- Installation of Monitoring and Verification system
- Thermal Insulation of the facade

Overall Pilot Project Value	KM 326,000
Contributions:	
USAID 3E	KM 167,000
UNDP BiH	KM 7,000
GIZ Energy Efficiency Project in BiH	KM 5,000
Municipality of Livno	KM 147,000

Expected results:

- Reduction of energy consumption by 40%
- CO2 emissions reduced by 70t CO2/year
- Raising awareness of citizens about the benefits of energy efficiency measures



Sports Hall **before** the EE measures



Sports Hall **after** the EE measures

The lynchpin of the USAID Enterprise Energy Efficiency (3E) Project is the implementation of 17 Pilot Projects throughout Bosnia and Herzegovina, in which mature and proven energy efficiency technologies that can be implemented in BiH with payback periods of less than five years are being used. The consumer recovers the savings in lower bills for heating, electricity and water and continues to reap the benefits after payback. For the implementation of these pilot projects, local companies will be used to carry out the works, which also helps establish new jobs.

The USAID Enterprise Energy Efficiency (3E) Project is a USD 4.5 million program for the promotion of Energy Efficiency technologies through the development of pilot projects in buildings that are co-financed by the public and private sector. USAID 3E is working on increasing the capacity building of municipal partners from the public sector as well from the small and medium enterprises. The project also works on increasing the public awareness about the benefits of energy efficiency. To date, the U.S. Government, primarily through USAID, has provided almost \$1.6 billion in assistance to support economic, democratic and social progress in BiH.