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**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
Enterprise Energy Efficiency (3E)**

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# ***USAID 3E - PILOT PROJECTS***

USAID 3E Presentation, Pilot Projects,  
October 8, 2012



## I. USAID 3E aims

- Implementation of more than 10 pilot projects throughout BiH
- Increase public and private sector capacity to implement EE projects
- Raise public awareness of EE potential



## Ongoing 3E pilot projects:

### Approved projects (17 projects in total):

1. Sarajevo, Mechanical Engineering Faculty
2. Tuzla, Primary School „Pazar“
3. Mostar, Gimnazija
4. Sarajevo and Tuzla region, 20 private houses
5. Foča, homes for returnees (3 buildings)
6. Rogatica, homes for returnees
7. Gradiška, Kindergarten „Lepa Radić“
8. Bihac, Cultural Centre
9. Livno, Sports Hall



## Ongoing 3E pilot projects:

### Approved projects (17 projects in total):

10. Prijedor, Primary School „Branko Ćopić“
11. Gračanica , SOS Kinderdorf
12. Olovo, Primary School „Olovo“ and Secondary School „Musa Ćazim Ćatić“
13. Travnik, Municipality building
14. Trebinje, LED street lighting
15. Bijeljina, LED street lighting
16. Srebrenica, LED street lighting
17. Banja Luka, Student centre “Nikola Tesla”



# Pilot project – Mechanical Engineering Faculty Sarajevo (MFS)

- Partners on project:
  - UNDP BiH
  - MEF
- Measures implemented by 3E:
  - Monitoring and Verification System
  - New gas condensing boiler
- Measures implemented by UNDP
  - Replacement of windows
  - Thermal insulation of facade



Zgrada MFS prije EE mjera



## **Pilot project – Elementary School “Pazar” in Tuzla**

- **Partners in project:**
  - **UNDP BiH, Municipality of Tuzla and Tuzla Canton**
- **Implemented EE measures:**
  - **Windows replacement**
  - **Heating System Repair and Expand**
  - **New thermal substation**
  - **Monitoring and verification system**



**Elementary School „Pazar” in Tuzla**



## Pilot project – Old High School in Mostar

- **Partners in Project**
  - **UNDP BiH and City of Mostar**
- **Implemented Measures**
  - **New windows**
  - **Heating system divided in zones**
  - **Automatic control of heating water temperature**
  - **Monitoring and verification system**

**Old High school in  
Mostar**





## Pilot project – 20 private houses Sarajevo and Tuzla regions

- **Partners in Project**
  - Homeowners and Suisse Caritas
- **Implemented EE Measures**
  - Thermal insulation of façade (10 cm EPS)



House in Binježevo



# Pilot project – Returnee housing in Foca

- **Partners in Project**

- U.S. Embassy, Netherlands Embassy, Catholic Relief Services (CRS), RS Ministry of Refugees and Displaced Persons, Foca Municipality

- **Implemented EE Measures**

- Thermal insulation of façade
- EE light bulbs
- Completed in October 2011.



**Urban building design**



**Rural building design<sup>10</sup>**



## Pilot project – Returnee housing in Rogatica

- **Partners in Project**

- **U.S. Embassy, RS Ministry of Refugees and Displaced Persons, Rogatica Municipality and Hilfswerk Austria**

- **Implemented Measures**

- **Thermal insulation of façade**
- **EE light bulbs**
- **Completed in October 2011**



**Returnee housing in Rogatica**



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## Pilot project – Kindergarten „Lepa Radic“ in Gradiska

- **Partners in Project**

- **UNDP and Gradiska municipality**

- **Implemented EE measures**

- **UNDP and Gradiska municipality Thermal insulation of outside walls and top floor ceiling**
- **Replacement of windows**
- **Installation of a biomass (pellet) boiler with autom. control**
- **Installation of solar thermal panels**
- **Installation of a Monitoring and Verification System**





## Pilot project – Cultural Centre in Bihać

- **Partners on project:**
  - **UNDP, Municipality Bihać and Una-Sana Canton**
- **Measures to be implemented:**
  - **Thermal insulation of the outside walls and ceiling on top floor**
  - **Window replacement**
  - **Biomass boiler installation and heating substation**
  - **Installation of monitoring and verification system**



**Cultural Centre in Bihać**



## Pilot Project – Sports Hall in Livno

- **Partners on project:**
  - Municipality Livno, Esco Eco Energija d.o.o, UNDP and GIZ
- **Measures to be implemented:**
  - Replacement of windows and part of the roof/facade cover
  - Connection to remote district heating
  - Reconstruction of the heating and ventilation system
  - Monitoring and verification system
- **Savings in energy and money:**
  - Inadequate existing heating
  - Increase in thermal comfort
  - Reduction of losses
  - Savings per MWh



**Sports Hall in Livno**



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## **Pilot project – Primary School „Branko Ćopić“ in**

### **Prijedor**

- **Partners on project:**
  - **Municipality Prijedor and RS Ministry for Culture and Education**
- **Measures to be implemented:**
  - **Thermal insulation of the outside wall and the top floor ceiling**
  - **Window replacement**
  - **Reconstruction of the heating and ventilation system**
  - **Monitoring and verification system**



**Primary School „Branko Ćopić“ u Prijedoru**



## Pilot project – SOS Kinderdorf in Gračanica

- **Partners on project:**
  - **SOS Kinderdorf**
- **Measures to be implemented (2 of 12 houses):**
  - **Window repair**
  - **Installation of solar thermal collectors for PTV preparation**
  - **Installation of monitoring and verification system**



**SOS Kinderdorf Gračanica**



## Pilot project – LED street lighting in Bijeljina, Srebrenica and Trebinje

- **Partners on project:**
  - **UNDP and municipalities of Bijeljina, Srebrenica and Trebinje**
- **Measures to be implemented:**
  - **Replacement of existing mercury vapour bulbs with LED bulbs**
- **Savings in energy and money:**
  - **Anticipated savings 50-70%**



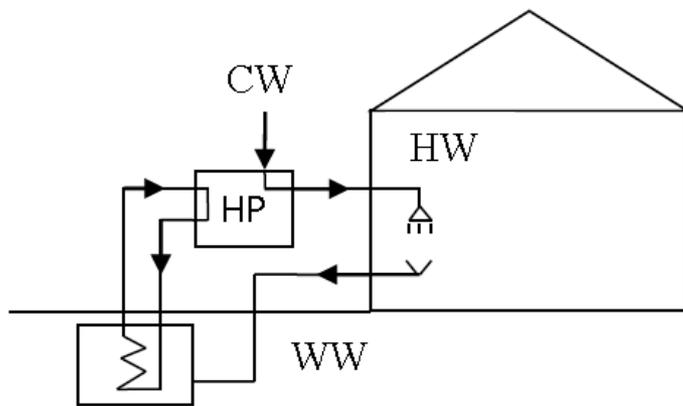
Existing street lighting



## Pilot Project – Student Centre “Nikola Tesla” in Banja Luka

- **Partners on project:**
  - **City of Banja Luka**
- **Measures to be implemented:**
  - **Installation of heat pump and ancillary equipment**
  - **Installation of monitoring and verification system**

### System schematics



HP – HEAT PUMP  
CW – COLD WATER  
HW – HOT WATER  
WW – WASTEWATER



## Pilot project – Primary and Secondary schools in Olovo

- **Partners on project**
  - **Suisse Caritas, Cantonal Ministry for culture and education**
- **Measures to be implemented:**
  - **Construction of joint biomass boiler room**
  - **Installation of thermostatic vents**
  - **Installation of monitoring and verification system**



**Primary and secondary schools in Olovo**



## Remote system for energy consumption monitoring

