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# **LOAD RESEARCH**

**Influence of small consumption customers in the  
category of distribution customers**

**USAID-REAP  
Tuzla, March 26, 2013**

Bosnia and Herzegovina (BiH) Regulatory and Energy Assistance Project (REAP)  
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## Question:

- **How many customers are there really in each of the following customer groups?**
  - a) Individual housing unit
  - b) Housing unit within a multi-floor housing/business facility
  - c) Garages as individual facilities or spaces within a housing/business facility
  - d) Common areas within a housing/business facility
  - e) Staircases and/or elevators in a housing/business facility
  - f) Weekend houses
- **Which category is the most dominant one percentage-wise?**

## Proposal:

- **In the next period the EPs should obtain customer information and form a valid database**
- **A good-quality database will improve the load research analysis and will help with other analyses**



## **Analysis:**

### **Assumptions:**

- I. The total number of these customers in EP BiH is 150.000**
- II. There are at least 50,000 weekend houses in the supply area of EP BiH**
- III. The average monthly consumption of the customers from the categories c-d is 29 kWh**
- IV. The daily consumption of 100,000 customers from groups c, d and e is peaking in two periods lasting two hours within a day**



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## **Assumptions (continuation)**

### **Customers c)**

- from 16/17 h if the generation is within working hours
- Employed people use it during the weekend

### **Customers d) ? What goes into this category?**

### **Customers e)**

- Staircase lighting is used mostly in afternoon/night hours;
- Elevators are used in the period 7-9 h and 15-17h.

**Customers f)** weekend houses are used on Saturdays and Sundays and on Sundays only until 15-17h.



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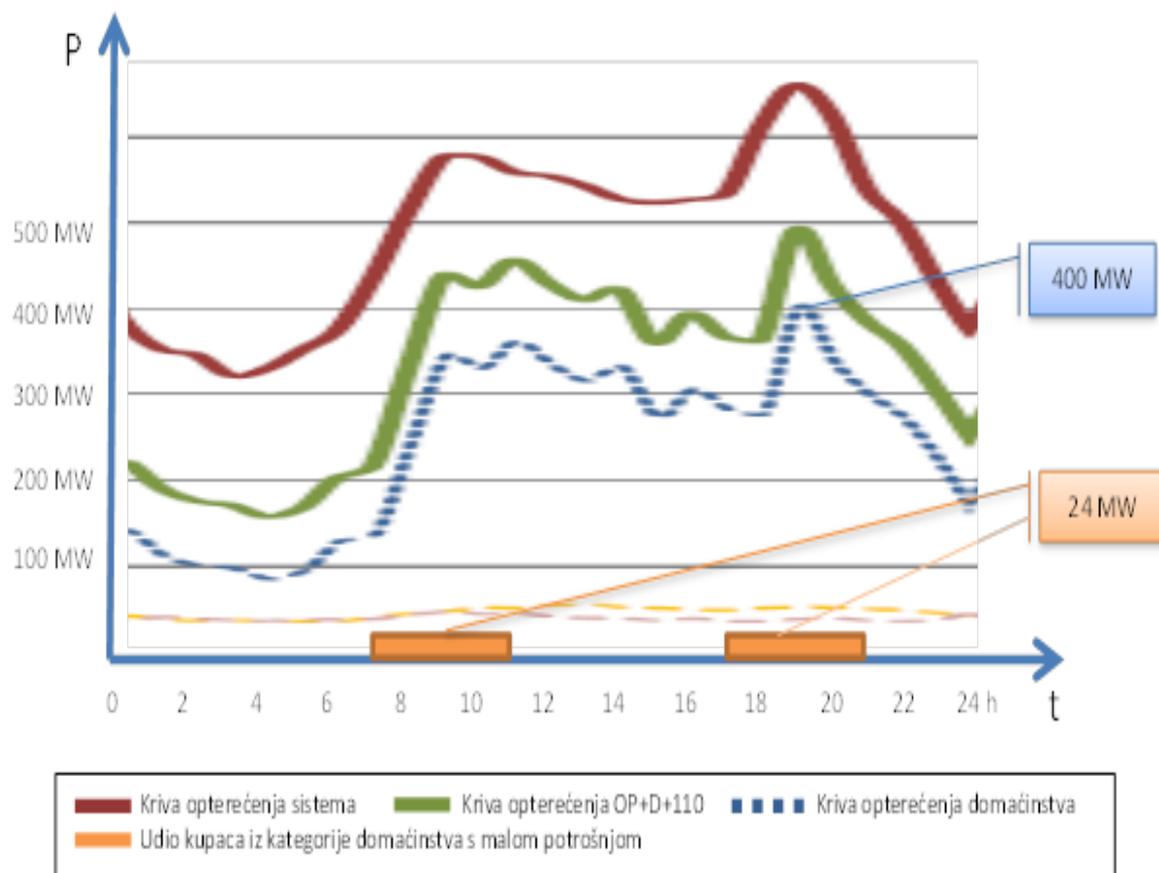
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# Analysis

- **$29/30=0,97$  KWh/day**
- **$0,97/4=0,2425$  KWh is used within 4 hours**
- **$0,2425 \times 100.000 = 24,25$  MW peak for garages, elevators and common areas**
- **That is:**
  - **$24,25$  MW/400 MW (maximum power relevant for engagement of capacity) = 6%**
  - **This power represents 6% of the peak power for the category of households obtained by the load research process done by EP BiH Team**



## Analysis (continuation)





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## **Proposal:**

- 1. In this phase of the research we should accept the EP BiH proposal to eliminate the customers from the groups c, d, e and f, because that would not significantly change the load curve of the household customers.**
- 2. In the period to come the EPs should organize load metering for individual characteristic customers from these customer groups to obtain necessary information about their load and take the result in consideration in the future analysis if it appears justified.**



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**HVALA !**