РЕГУЛАТОРНА КОМИСИЈА ЗА ЕНЕРГЕТИКА
НА РЕПУБЛИКА МАКЕДОНИЈА

Current Development of the Tariff Structure in the Electricity System of the Republic of Macedonia

Partnership Program

ERC, Republic of Macedonia - PSB, Vermont

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Existing Tariff System

- Adopted on October 27, 1982 with the decision of the Government of the Republic of Macedonia. It is published in the Official Gazette of SRM No. 45, December 8, 1982.

Amended with decisions adopted by the Government of the Republic of Macedonia:

- Official Gazette of SRM No. 15, May 14, 1985
- Official Gazette of SRM No. 22, June 20, 1988
- Official Gazette of SRM No. 47, December 29, 1989
- Official Gazette of RM No. 24, April 28, 2000
- Official Gazette of RM No. 26, March 27, 2000

Current Tariff System's Structure

Electricity consumers according to voltage level on delivery location and type are as follows:

1. High voltage consumers

- consumer category for voltage of **110 kV** and higher
- consumer category for voltage of **35 kV**
- consumer category for voltage from **1kV** to **20kV**

2. Low voltage consumers (0.4kv voltage consumers)

- consumer category: **households**
- consumer category: **other consumers**
  - **I tariff degree** where power is measured
  - **II tariff degree** where power is not measured, but determined in a different way
  - **public lightening**

Tariff headings are set depending on:

1. **Voltage level** on which the consumer is connected

2. **Season** when the electricity is delivered

3. **Time period during the day** when the electricity is delivered

1. Tariff headings according to the voltage level where the consumer has been connected

1.1 Tariff headings for high voltage (higher than 1 kV)

- tariff headings for voltage of 110 kV and higher
- tariff headings for voltage of 35 kV
- tariff headings for voltage from 1 kV to 20 kV

For consumers who annually consume more than 300 GWh and can adjust to the supplier requirements for rational electricity consumption, discount on tariff headings can be arranged.

1.2 Tariff headings for low voltage (smaller than 1 kV)

- tariff headings for the consumer category: households
- tariff headings for the consumer category: other consumers

2. Tariff headings according to the season when electricity is delivered

2.1. Higher season headings (HS) (January, February, March, October, November, December)

2.2 Lower season headings (LS) (April, May, June, July, August, September)

Ratio between higher and lower season headings is as follows: HS: LS = 1.5 : 1.0.

With the changes of the tariff system from March 27, 2000, lower season headings have been revoked for the consumer category households, and this consumer category is charged with higher season headings throughout the year.

3. Tariff headings according to the time period during the day:

3.1 Higher time headings (HT)

- from 07:00 until 13:00 and from 16:00 until 22:00, winter time
- from 08:00 until 14:00 and from 17:00 until 23:00, summer time

3.2. Lower time headings (LT)

- from 13:00 until 16:00 and from 22:00 until 07:00, winter time
- from 14:00 until 17:00 and from 23:00 until 08:00, summer time
- on Sundays from 00:00 until 24:00, provided the consumer has enabled such measurement (two-tariff).

A ratio between the higher and the smaller time headings is as follows: HT : LT = 2.0 : 1.0.

Participation of power in the total electricity value amounts to:

- for high voltage: 50%; and
- for low voltage: 25%

With high voltage consumers and the consumer category of other consumers (I tariff system), power is determined with the power measuring devices and depends on the specific characteristics of each consumer, whereas with the consumer category of households and other consumption (II tariff system), power is calculated in the way that the value of actively consumed electricity in kWh is increased by 33%.

Elements for the calculation of charge for electricity supply are as follows:

- **Charged active power (kW),** the biggest load of the consumer in 15 minutes period in the monthly charge period

- **Consumed active electricity (kWh)**

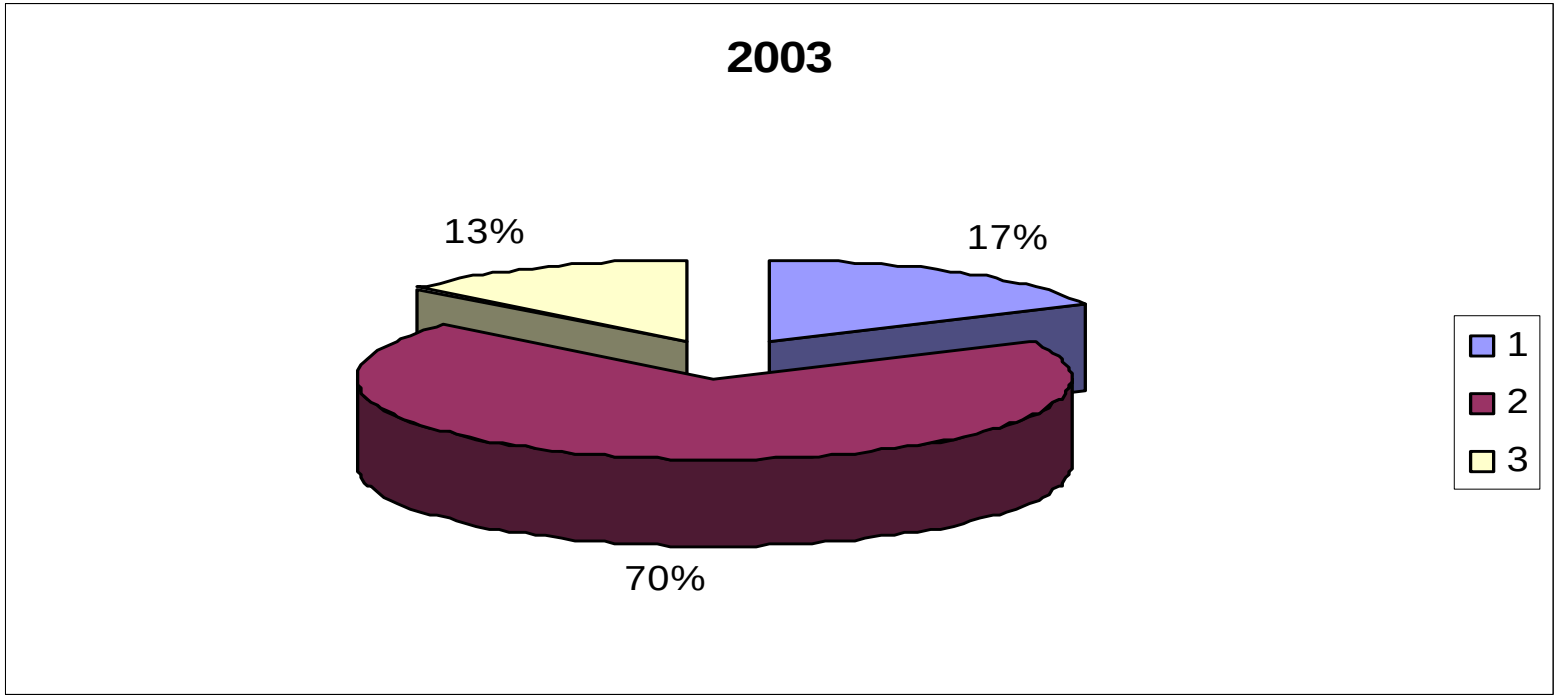
- **Overtime consumed reactive electricity (kVArh),** represents the difference between the actual consumed electricity and the reactive electricity that is equal to the power factor cosφ = 0.95, i.e., the consumed reactive electricity over 33% of consumed active energy.

Tariff headings for overtime consumed reactive electricity

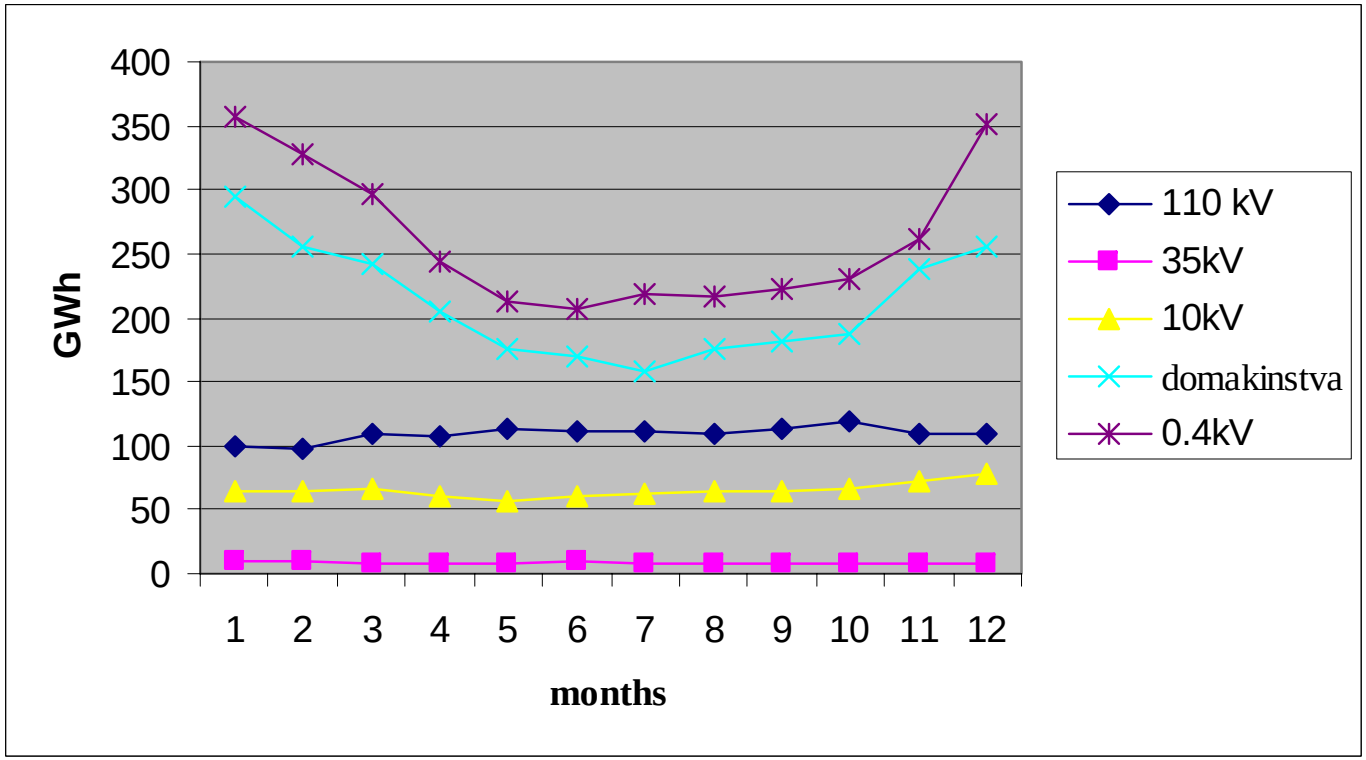
Tariff headings for overtime consumed reactive electricity amount to **25%** from the tariff headings for consumed active electricity.

Available electricity on 110 kV, 7.074 GWh

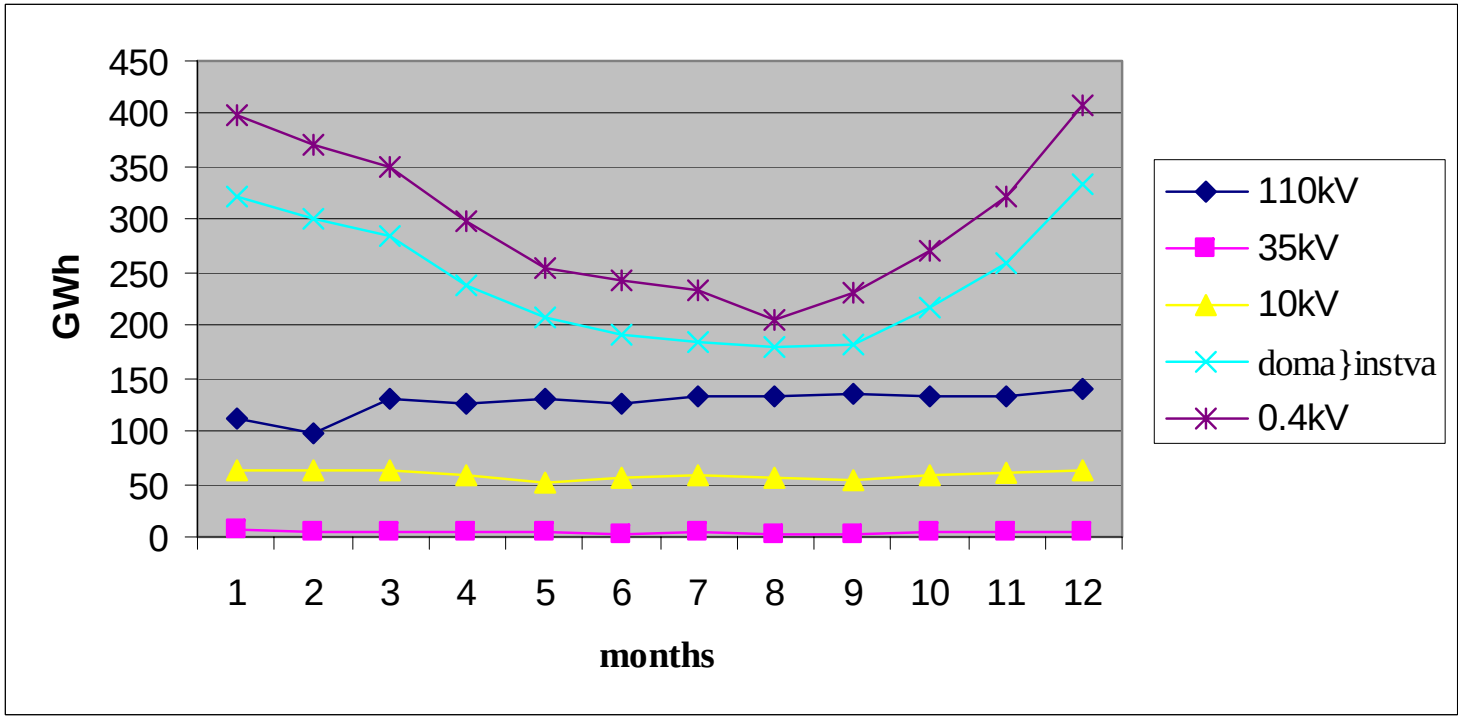
1. Hydro generation: 1,218 **GWh**, **17%**
2. Thermal generation: 4,863 **GWh**, **70%**
3. Imported: 953 **GWh**, **13%**



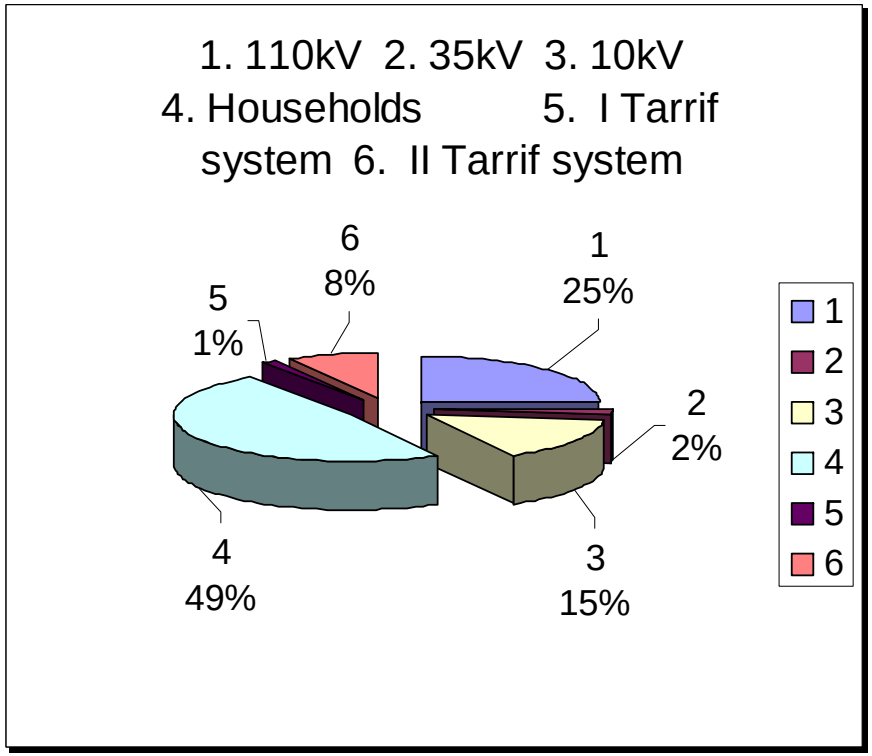
Average annual consumption of electricity for the period 1994-2003



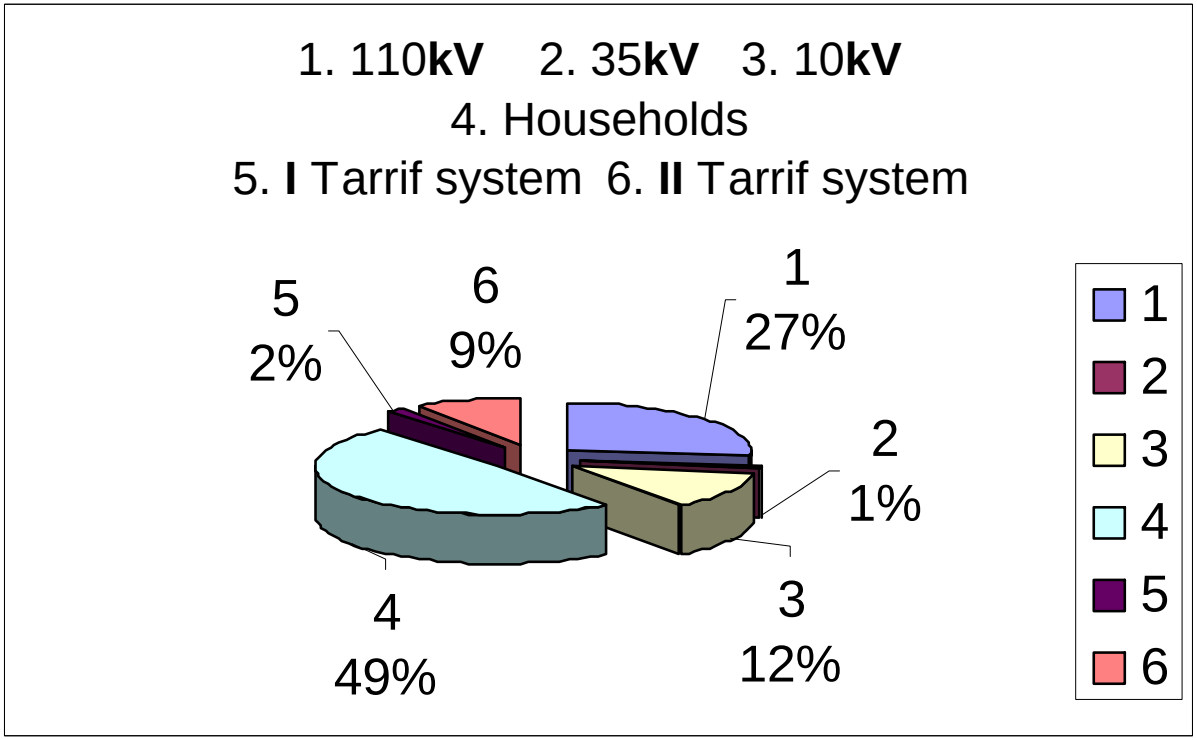
Annual electricity consumption for 2003



Average participation (percentage) of consumed electricity for each consumer category for the period 1993-2003



Participation (percentage) of consumed electricity for each consumer category for the year 2003



Ratio of consumed electricity in winter and summer months for the consumer category households

The ratio of total electricity consumption in winter (January, February, March, October, November, December) and summer (April, May, June July, August, September) months is as follows:

- Period 1993-2003 Ew : Es = 1,476 : 1,062 = 1.39 : 1.00
- Period 2003 Ew : Es = 1,717 : 1,184 = 1.45 : 1.00

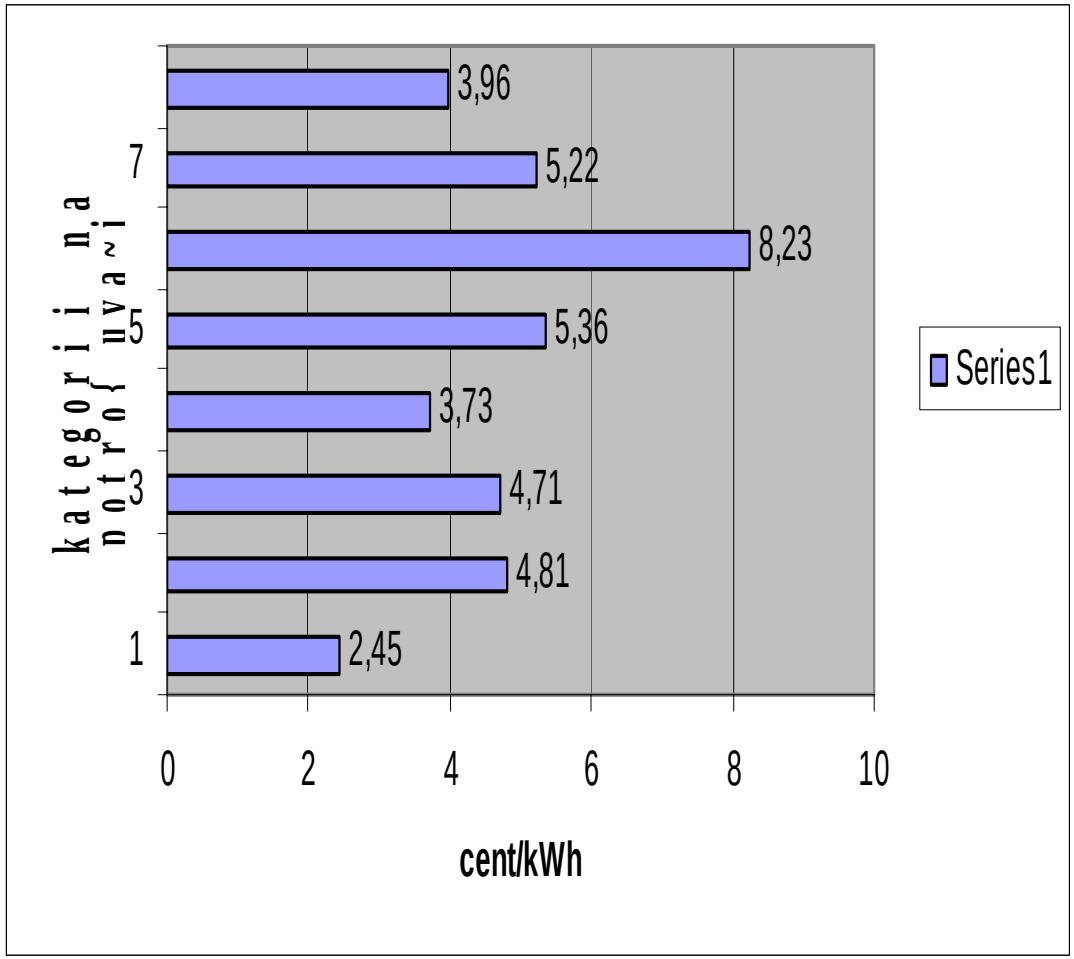
Comparison of total electricity consumption for winter months in the period 1993-2003 and the period 2003, as well as the comparison for summer months for the period 1993-2003 and the period 2003.

- Winter months Ew (03) : Ew (93-03) = 1,717 : 1,476 = 1.16 : 1.00
- Summer months Ew (03) : Ew (93-03) = 1,184 : 1,062 = 1.11 : 1.00

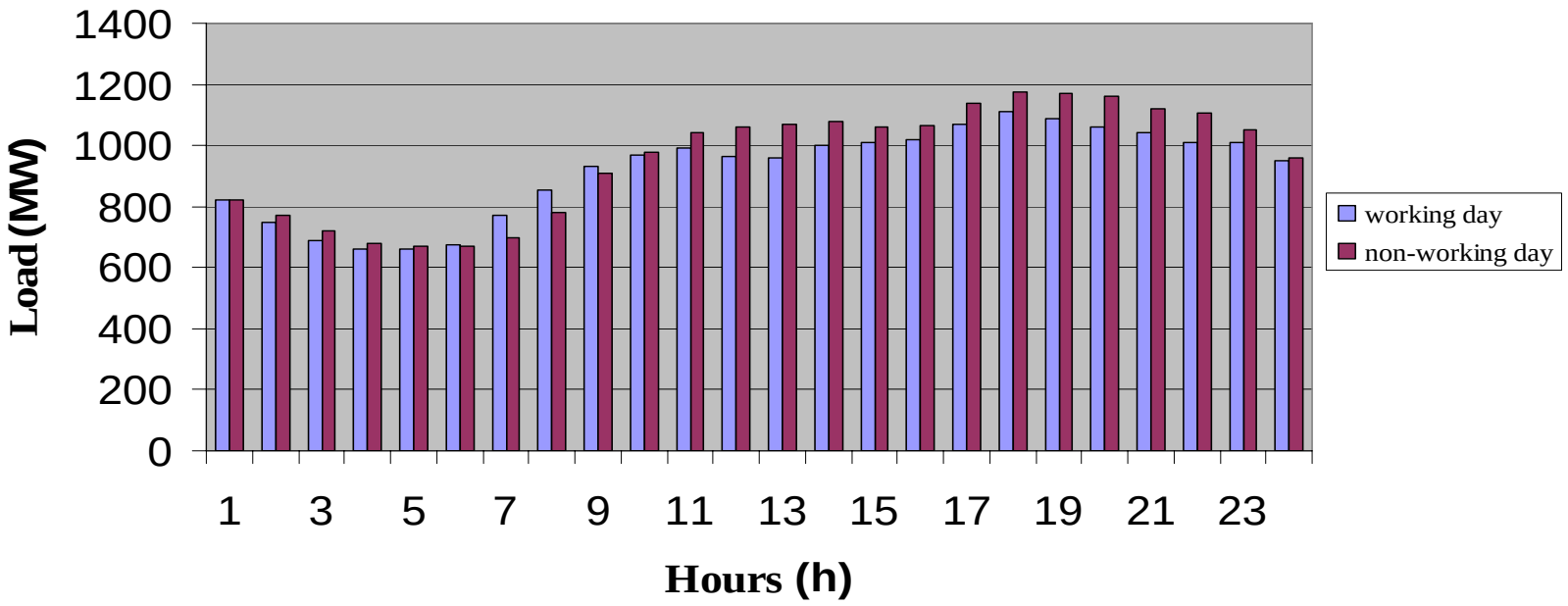
Average electricity prices for the period January – August, 2004

1. 110kV
2. 35kV
3. 10kV
4. Households
5. I Tariff system
7. Street lightening
8. Average price for all categories

1EUR = 61.2888 denars



Time Differential of Load for Working and Non-working Days in December 2003



Statements for the existing tariff system

1. In the case of high voltage consumers, good pricing signals have been sent thus leading to a balanced annual consumption.

2. In the case of low voltage consumers, inappropriate pricing signals have been sent, meaning, there is a great discrepancy concerning the low voltage consumer prices.

3. Prices are not in compliance with the real incurred costs for securing electricity in the case of low voltage consumers.

Steps to be undertaken in the future

1. **Redesigning the low voltage tariff headings**

♦ Introducing tariff blocks for the consumer category of households where the price per 1kWh will incorporate the power

1. Consumed electricity up to 200 kWh per month, **I block**
2. Consumed electricity from 200 kWh to 500 kWh per month, **II block**
3. Consumed electricity above 500 kWh per month, **III block**

♦ Introducing the possibility of a three-tariff measurement for the consumer category of

households

♦ Introducing 3 seasons for the consumer category of households (electricity consumption in winter months is 45% higher compared to summer months, and the ratio of electricity consumption in the months between the ones with highest and lowest consumption amounts to 70%)

1.Higher (January February, December)

2. Medium (March, April, October, November)

3.Low (May, June July, August, September)

Steps to be undertaken in the future (cont'd)

♦ Instead of the current I and II tariff system, in the case of a consumer category of "other consumers," introducing the three subgroups:

Subgroup 1:
Installed power above 30 kW, with built-in measuring devices for power, active and reactive electricity, **I tariff system**
Subgroup 2:
Installed power of 10 kW to 30 kW, with or without built-in measuring devices for power, **II tariff system**
Subgroup 3:
Installed power of 10 kW, without built-in measuring devices for power and without the obligation for reimbursing the overtime consumed reactive electricity, **III tariff system**

Steps to be undertaken in the future (cont'd)

2. Abolishing a weekend tariff for all consumer categories

3. Introducing a medium voltage consumer category

4. New allocation of power participation in electricity prices