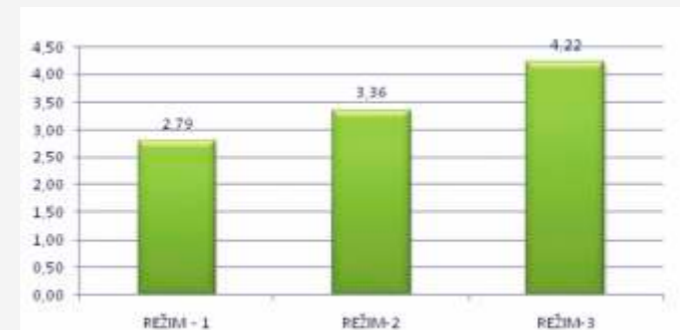


## ECONOMY OF „ĐĐ – ENITEH 500“

Regime of work	1		2		3	
	GWh/Y	days	GWh/Y	days	GWh/Y	days
Sales of electric energy 400 kW	3,31	345	3,31	345	3,31	345
Sales of thermal energy 1350 kW	11,18	345	6,26	258	2,79	172

Return on investment based on gross profit



Payback time of investment – Year

## AWARDS FOR INNOVATION

**ARCA ZAGREB 2010**  
FOR BEST INNOVATION

**ARCA ZAGREB 2010**  
IFIA SCIENTIFIC MEDAL

**INVENTIKA BUKUREŠT 2010**  
GOLD MEDAL

**IWIS VARŠAVA 2010**  
SILVER MEDAL

**ŽENEVA 2011**  
GOLD MEDAL



## ĐĐ ELEKTROMONT d.d. - scope of services

- Creating economic feasibility study for project realisation
- Creating project drawings with obtaining permissions
- Delivery of the plant – turn key



May2011

**ĐURO ĐAKOVIĆ**  
**ELEKTROMONT d.d.**  
SLAVONSKI BROD - HRVATSKA



## BIOMASS AS SOURCE OF INCREASING LIFE QUALITY



## COGENERATION PLANT

# ĐĐ - ENITEH - 500

Dr. Mile Budaka 1, 35000 Slavonski Brod, pp 429, tel.: +385/35/ 446-089; + 385/35/ 448-329, www.dd-elektromont.com

# BIOMASS

Renewable sources of energy are the one that do not contribute increasing of glasshouse gases. Biomass is renewable source of energy, which we can find all arounds local community. Biomass relate to living or recently living alive substance of animal or crops source, which can be used as fuel for industrial production.

Biomass can be divided into:

- Wood biomass ( branches, bark and wood chips from forestry and wood industry)
- Agricultural biomass ( reed straws, sunflower haulms, rests from cutting, seeds, animal faces and rests from livestock)
- Biomass from garbage

## COGENERATION PLANT „ĐĐ – ENITEH – 500 “ fired by biomass

**Innovative technical and technological solution** for simultaneously production of electric and thermal energy in unique process.

### Production:

#### ELECTRICAL ENERGY

- Electrical power – 400 kW, 0,4kV
- Connection over transformer on middle voltage grid 10 (20)kV
- Grid independent operating mode

#### THERMAL ENERGY

- Warm air ( exhaust from turbine): 6,33 kg/sec ( 225-275°C)
- For technological purposes
- Warm water: (110/90 °C) 944-1880 kW
- For heating purposes
- Warm water: ( up to 60°C) 406 kW
- For sanitary water purposes
- The area of regulating necessary heat for heating is 1:2

### Fuel:

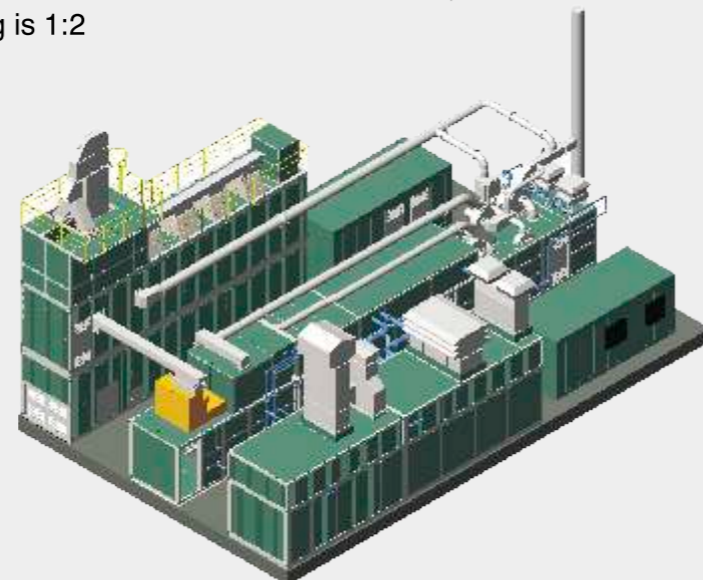
- Chopped wood biomass
- Own drying on W1=10 &
- Fuel consumption – 7000-8000 T/year

### Operating and managing of the plant

- Fully automatised work – monitoring plant work with one person in the shift

### Preparation for construction:

- Concrete plate with built-in installations
- Necessary space – 16x25 m = 400 m<sup>2</sup>



# USE OF CO-GENERATION PLANTS

- Heating of the cities and communities
- Heating and cooling of bigger municipal facilities and public purpose buildings under the jurisdiction of state or local government ( schools, sport halls, hospitals, dorms, pools etc.)
- In the industry where exist need for thermal energy for production processes (pellets production, brick production, wood driers...)
- In the process industry such as dairies, juice producers, fruit driers, glass houses...



## INVESTMENT OBJECTIVES OF LOCAL COMMUNITIES INTO CO-GENERATION PLANTS

- Control over energy situation in all buildings in ownership of local community
- Enabling heating under favorable prices comparing other solutions
- Emission Reduction of Greenhouse Gases
- Creating of energy efficient and awareness of local community as example to the other societies
- Enabling of employment in the area of production and transport of biomass
- Enabling of employment in operating and maintenance of the plant
- Prevention of de-population
- High profitability of the plant, in combination with favorable sources of financing it could be source of funds for solving of social/municipal needs of local community

## FINANCING OF THE CO-GENERATION PLANT CONSTRUCTION

- Government support – tariff system for production of electrical energy from renewable resources of energy ( 12 years)
- Fund Environmental protection and energy efficiency ( ZOEU) – credit, interest rate subsidy, financial help, donations
- Croatian Bank for Reconstruction and Development – HBOR – longterm credit with interest rate subsidy
- Programs of help and cooperation with EC – pre-accession economic program
- About IPARD – 75% grant, up to 7.000.000 kn