

# Utilization of biomass in the energy supply of the Plant Diversity Centre in a Hungarian village

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2017



Co-funded by the  
Erasmus+ Programme  
of the European Union



UNIVERSITAT  
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**GEOLIN**

**GENERAL ELECTRIC**



# LOCATION



- **Yellow** The area of the institution
- **Red** Bird protection area



# RURAL DEVELOPMENT EFFECTS OF BIOMASS

- creates new jobs
- *cutting waste means extra income for several farmers in the area*
- retaining the population
- increases local employment

# CALCULATIONS

## TEMPERATURE DATA

### Temperature data 01.09.2015 - 31.04.2016

Description	September	October	November	December	January	February	March	April
Monthly average temperature	15,8	13,2	8,2	1,6	2,7	5	9,6	13,4
Lowest temperature	5,5	-1,6	-3,4	-7,6	-10,4	-8,4	-2,9	2,7

# CALCULATIONS

## FOSSILE OIL

Place	Fuel oil consumption 01.09.2015 - 31.04.2016									Energy MJ/ kWh	Boiler power- kW*
Gene Bank	200	600	700	900	1650	1000	650	600	6300	264 600 / 73 500	2 x 50
New Laboratory	1500	1800	2000	2100	2128	2354	2073	2919	16874	708 708 / 196 863	2 x 130
Main Building	2100	2500	2800	3100	3400	3200	2700	2300	22100	928 200 / 257 833	2 x 170
Shop	200	500	1100	1000	1000	1000	1100	300	6200	260 400 / 72 333	1 x 96
<b>Total</b>	<b>4000</b>	<b>5400</b>	<b>6600</b>	<b>7100</b>	<b>7178</b>	<b>7554</b>	<b>6523</b>	<b>6119</b>	<b>50474</b>		

# CALCULATIONS

## SAVINGS

Place	Use energy / MJ /	Ft/ MJ - oil	Ft/ Mj -wood schips *	Cost with oil	Cost with wood chips	Savings
Gene Bank	264600	7,4	1,33	1 958 040 Ft	351 918 Ft	1 606 122 Ft
New Laboratory	708708	7,4	1,33	5 244 439 Ft	942 582 Ft	4 301 857 Ft
Main Building	928200	7,4	1,33	6 868 680 Ft	1 234 506 Ft	5 634 174 Ft
Shop	260400	7,4	1,33	1 926 960 Ft	346 332 Ft	1 580 628 Ft
<b>Total</b>	<b>2161908</b>			<b>15 998 119 Ft</b>	<b>2 875 338 Ft</b>	<b>13 122 781 Ft</b>

THANK YOU FOR YOUR  
ATTENTION