

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



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 |
| Total | 4000 | 5400 | 6600 | 7100 | 7178 | 7554 | 6523 | 6119 | 50474 | | |

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 |
| Total | 2161908 | | | 15 998 119 Ft | 2 875 338 Ft | 13 122 781 Ft |

THANK YOU FOR YOUR
ATTENTION