

## Use of biomass from grassland as alternative thermal energy

### Background

**Project No:** SVK/SGP/OP4/Y3/RAF/2010/022

**Grantee:** Slovenská ornitologická spoločnosť/BirdLife Slovensko

**Location:** Bird Protected area Žitavský luh at Poddunajska lowlands and at Bird Protected area Senné in Eastern Lowlands

**SGP Contribution:** 49.522 USD

**Cash Co-Financing:** 39.807 USD

**In-Kind Co-Financing:** 10.000 USD

**Project Duration:** 18 months

**Focal area:** Climate Change

This project is implemented within two protected areas. One is Žitavský luh (size of 155 ha) located on Danube lowlands and second one is Protected Bird Area, Senne (size of 2700 ha) located on Eastern Lowlands.

The core problem within the project lies on alluvial meadows which were created by parallel impacts of human and nature. Due to changes in social behavior in past 20 years, the meadows lost their original functions (flood protection, source of biomass, cattle grazing). Rehabilitative capabilities were disrupted by regulation of rivers flowing into the meadowlands and consolidation of arable land into bigger parcel units.

These changes led to a change in the structure of the agricultural land leading to land degradation, reduction of permanent vegetation, and loss of biodiversity.

Local habitants lost their ownership and later on relationship with the land and the nature it holds. Currently, there are no state interventions (both legislative and financial) available to change the approach towards meadow management.

### Project Objectives and Key Activities



The project aims to increase the interest of local people in using biomass from grasslands for the production of thermal energy at two of the most significant alluvial wetland habitats in Slovakia (protected area Senné fishponds and Žitavský luh) by providing the financial incentives to the local habitants. Thus providing proper management of grassland biotopes and developing a model for processing and using biomass for energy production within Slovakia.

In particular, the project aims to decrease CO<sub>2</sub> emissions by providing grassland biomass for heating and to increase participation of local community on climate change mitigation and biodiversity protection.

### Environmental Impact

To date, the project has mowed 93 ha grasslands, produced 76 tons of biomass from grass and produced 146,300 kWh of energy through conversion of the grass biomass into energy.



Regular mowing of the grasslands increases the biodiversity value of the site and ensures proper ecological conditions (structure of the vegetation) for bird species, as well as mammals. After proper management of grassland was initiated, relevant bird species started to breed at the site including Northern Lapwing (8 to 10 pairs) and Redshank (2 to 4 pairs).

Through the project, two approaches for biomass production were tested: 1) First: pressed hay to be burnt in the heating plant; and 2) pellet production for energy provision at the household level.

### **Socio-Economic Impact**

To increase ownership of stakeholders, 60 volunteers were helping with hand-mowing. 300 school children and habitants were provided with information about the natural value of grassland meadows and alternative ways of grassland management.

The project created conditions for income generation of local habitants by purchasing agricultural services from 5 local farmers in order to produce biomass from hay. In order for this service to be sustainable, it is important that the ecosystem is kept in equilibrium state and that services are provided locally, as transportation increases the price and its cost-efficiency.