



# IMPACCT CASE STUDY No. 14

Integrated Management Options for Agricultural Climate Change mitigation

## Zamet farm, Bloke, Slovenia

This case study is based on a modest sized holding in the small village of Nova vas in the municipality of Bloke, Slovenia. The area takes its name the karstic plateau. Its south part consists of limestone and to the north of Bloke is a dolomite plateau, which rises about 700 and 800 m above the sea. The area is also special with respect to its biodiversity as there are several distinct local species and numerous plants that are found only in this area.

The area's climate has two main influences – the Mediterranean and the alps. It does endure extremely harsh windy winters with high snow fall but summers are warm. The soils are formed on dolomite limestones and are often shallow. However, there are heavy clay-loam soils in the marches and centre of the plateau.



Bloke, Slovenia

The local topography is gentle hills and is partly covered with forest. The photograph below shows a panoramic view of the area. The majority of agricultural land is located in the flat valley, whereas the forests and silvo-pastoral system can be found in the surrounding low hills.

The main agricultural activity is concerned mainly with animal husbandry (52 cattle Limousin (F) and Angus (M)) and the farm has 31 ha of meadows and pasture. There is also a small amount of arable cropping (15 ha) winter wheat and legume grass mixtures. Diversification enterprises include a small timber transporting and machinery business that provides services to other agricultural holdings such as leasing of a baler for silage wrapping and drying, ploughs, harvesters and mowers.

The farm has 40 ha of forest, a small area of uncropped land covered with bush and trees and 15 ha of marsh land that lies within a Natura 2000 site which is a protected area for birds.

Permanent meadows are cut twice or three times per year and yields are high at 7-10 tonnes/ha of dry matter (hay and silage).



The village of Nova vas

- During 2009 the farm invested in energy efficiency machinery including the purchase of a new tractor. Whilst the purchase was mainly for forestry work it is also used on the farm and has enabled farm cultivations to be carried out quicker and in a more timely fashion. This tractor replaces two old and inefficient machines. The tractor runs on biodiesel. The initial capital outlay was around €30,000.

- Soil management and plant nutrition activities are planned carefully in order to optimise fertiliser use. Fertiliser management plans are produced annually. This is particularly important as the Karst area is very susceptible to nitrate leaching and is in a Nitrate Vulnerable Zone (NVZ). These activities are expected to save money and reducing greenhouse gas emissions. However, some costs are incurred from the increased need to undertake soil analysis (around €25-30 per sample) and commission the fertiliser management plans. However, a national grant was received in order to improve the storage capacity for manures and slurry (50% of cost).
- Energy and money is saved by harvesting logs and brush from forestry activities and this is used for heating the farm house.
- Plant oils are used as alternatives to fossil crude oil derivatives are used in all machinery and engines.
- Waste management is given a high priority on both the farm and the diversification businesses. This is driven partly by the States strategy on source separation of communal waste. Wood, paper, plastics, metal and glass are all recycled. Until 2005 most wastes were sent to landfill but now all wastes are separated by type, waste oil is delivered to communal collection sites and larger items are collected by the State twice a year. There is a communal charge for the waste management service.
- Biodegradable material is composted and then incorporated into the seedbed and used as a source of nutrients.



**Limousin cattle**

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