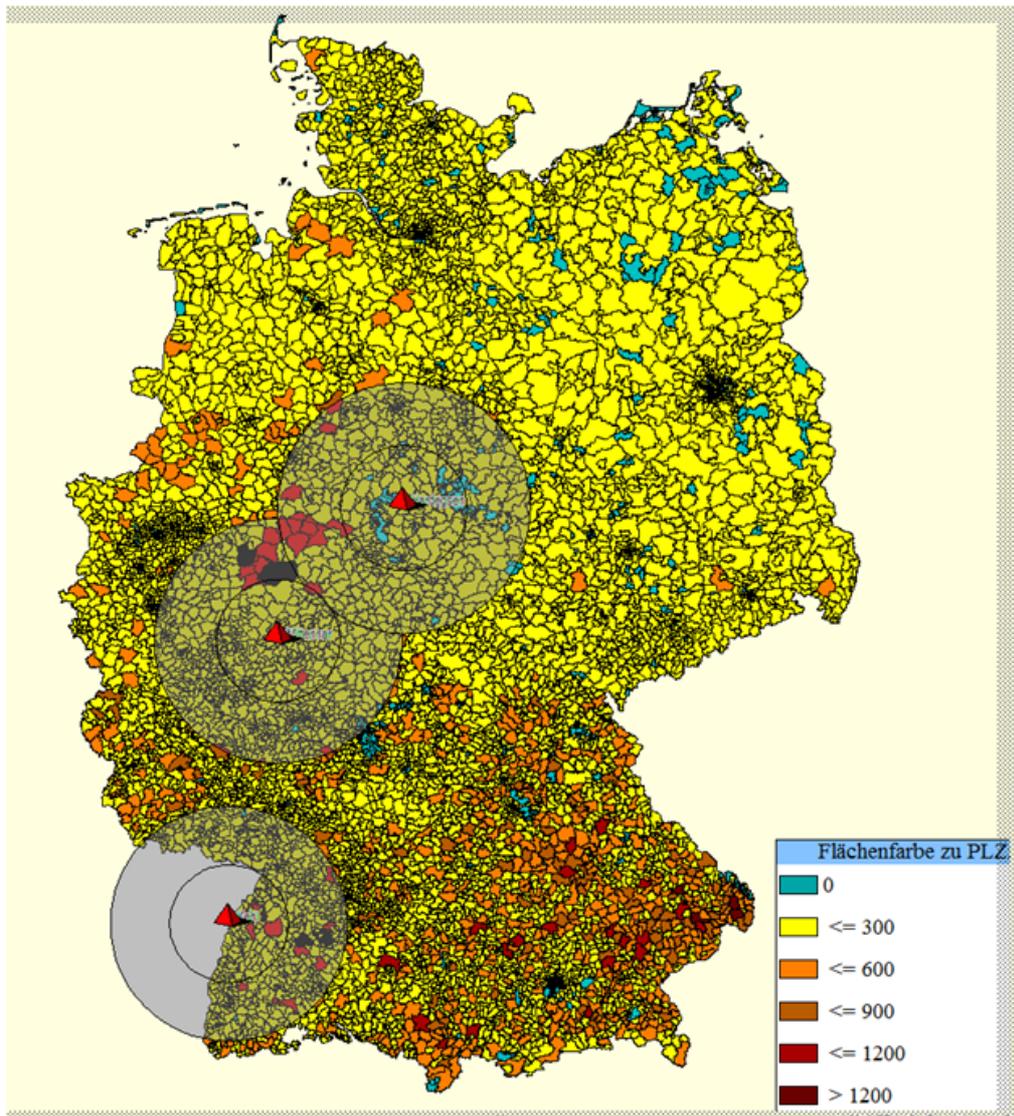


## Implementing Geographic Information Systems to determine the potential of the wood pellet industry and identify suitable retail locations.

Wood pellets constitute one of the basic sources of renewable energy produced by biomass such as wood, sawdust, Palm kernels, coconut shells, crops and other forest residues. It was first used as a substitute for coal and was successful enough that Sweden, Denmark and Belgium created policies mandating all coal plants to switch to biomass for fuel. Wood pellet demand has increased because, it is environmentally friendly, 25-50% cheaper than fossil fuels, easy to use and store and has high energy content compared to other biofuels. It is currently being used for in both the domestic (for home heating) and industrial (more than 10 million tons per year) sectors all around the globe. Because of its usefulness, production has increased by more than 110% from 2006 to 2010. Environmental restrictions and the geography of place both play important roles in its consumption.

A marketable Geographic Information System (GIS), for sales management of the large German pellet manufacturer Bioenergy GmbH will be tailored for this specific application and implemented. First, the basic input and output data will be determined and administered. The system will be built up on small amount of data (database) which will be continually updated and maintained. In addition, market data will include information allowing a link between it and the actual operational sales data visualization. On the basis of these data, a second step will include, detailed potential and site analyses and the product, dealer, and customer relationships will be visualized. Based on these steps, relevant decision-making criteria for optimizing the current situation and a strategic sales management will be developed.

In order to optimize the local sales process for, Bioenergy GmbH, a functional tool for analyzing sales potential, customer and market data within the frame work of an implemented GIS system will be provided.



Spatial location of EC Bioenergie GmbH production sites and coverage area with 100 km direct distance