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FRAUNHOFER INSTITUTE FOR ENVIRONMENTAL, SAFETY, AND ENERGY TECHNOLOGY UMSICHT

EXPLORE BIOMASS POTENTIALS WITH GEOINFORMATION SYSTEMS (GIS)

PLANNING WITH GIS!

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The utilization of biomass as a renewable energy source which is locally available and storable offers an opportunity to actively shape energy planning processes on a regional level.

Different geospatial questions characterize this utilization of biomass for energy purposes. The complete value chain, starting at the origin of biomass, the haulage of biomass to the location of energy conversion including energy transport can be analyzed by means of geoinformation technologies. Fraunhofer UMSICHT provides GIS-based tools for all spatial aspects regarding site planning for bioenergy plants, biomass potential assessment, biomass logistics and resources management.

Keywords

- Regional biomass potentials and material flow management
- Agriculture – crop production and livestock
- Forestry – Wood residues
- Public lawn and garden maintenance – Landscape maintenance: tree loppings and grass clippings
- Waste management – biogenous wastes
- Water management – nutrient balances

Industrial sectors

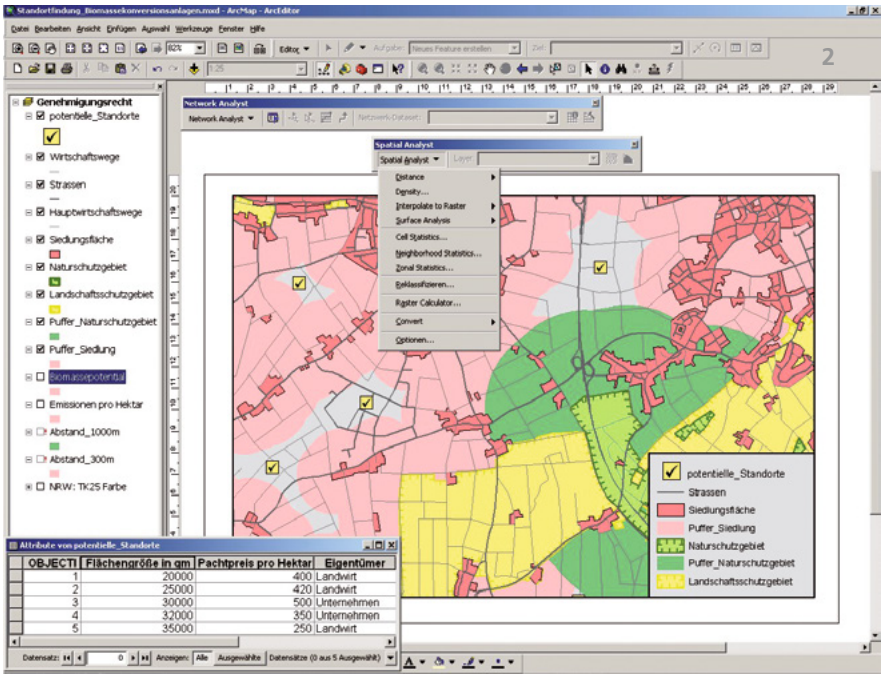
- Producers and users of biomass
- Energy industry
- Biogas industry
- Authorities and ministries
- Banks, investors, insurance companies

Our services

- Site identification and optimization for biomass conversion plants, including present land usage, area-relevant planning and infrastructure
- Analysis of the biomass potential in the natural area regarding a sustainable cultivation of energy crops
- Analysis of the potential of biogenous waste materials from industry, trade and private households
- Logistical optimization of biomass and waste materials transportation
- Integration of up-to-date datasets for technical, economic plant description
- Optimization of sites for biogas plants, the related substrate supply and possible gas feed-in points
- Web-based integration of network data from plant operators' data bases
- Impact prognoses of biogas feed-in into the natural gas grid
- Integration of complete process chains (balancing of costs and revenues and emissions of the required technologies for the generation, treatment and feeding-in of biogenous gases)

Your benefit

- Planning safety
- Supply safety
- Safe investment
- Operational safety
- Economic operation of plants
- Reduction of climate-relevant emissions
- Strengthening of regional structures through the creation of employment



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