



Nature based solutions against environmental risks: biodegradable geosynthetics

MAGDALENA BOSTENARU, MARIA BOSTENARU DAN

Magdalena Bostenaru and geosynthetics at the EGU

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Nature-based solutions for industrial heritage

- Thermal power plants of the villages of Mintia and Doicești
- Greening of industrial waste (ash dumps)



Conversion and greening of industrial heritage in Germany



Design projects of the first author of the paper:

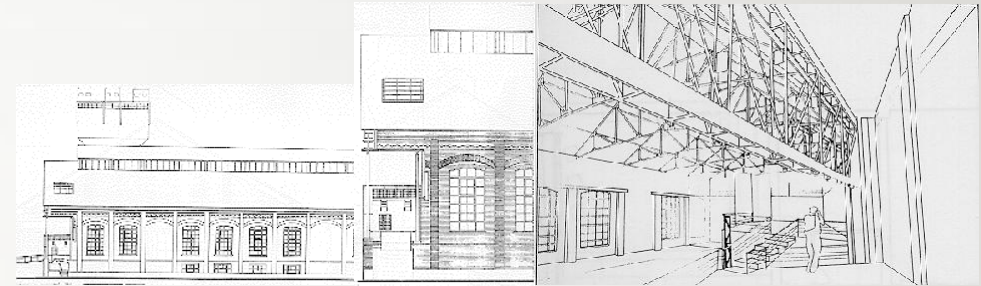
urban conversion of the Rhine port in Karlsruhe, inclusive thermal power plant

The central idea was greening, nature and city, including an MSW dump.

Conversion and greening of industrial heritage in Germany

The idea was to maintain the industrial building with its spatial and detail characters, in approach as Carlo Scarpa did for other heritage.

Another example, without image, is the analysis of the legacy of the International Building Exhibition Emscher Park in the Ruhr area.



Design projects of the first author of the paper:

Above: conversion of industrial building in the Rhine port of Mannheim

Successful conversion of industrial heritage in Romania



The so-called “water plant” in Suceava, now Centre for Architecture, Urban Culture and Landscape.

Greening of the slope over the tubes with a geo-textile.

It is one of few success stories in Romania.

The success is also thanks to sociology of architecture approach.

Design of a geotextile and testing



A biodegradable, so-called “green” geotextile was proposed and laboratory tests done.



Testing in laboratory and in field



Discussion and conclusions

- Conclusions must be drawn from both the review of approaches to changes given to coal industry with the energy shift and to the particular solution here.
- A similar approach was found in Serbia, also a post-communist country, otherwise solutions are rather different.
- Urban sociology and sociology of architecture are important for implementation, as the consequences of technique development have to be assessed.
- Nature based solutions are a viable solution to be combined also with land art and new uses.
- The biodegradable geo-textile served its purpose.