

Innovation Project

Ports and Logistics Cluster



Bremen Cargo Distribution Center (GVZ Bremen): Identifying Measures for Adaptation to Climate Change

Rather than focusing on climate-protection measures, the Bremen Cargo Distribution Center (GVZ Bremen) has identified measures for adaptation to climate change. In 2011 and 2012 the Institute of Shipping Economics and Logistics (ISL), together with the Bremen University of Applied Science, carried out a comprehensive empirical investigation of the effects of climate change on the logistics sector of the Metropolitan Region Bremen-Oldenburg in the Northwest. The results clearly show that the expected impacts of climate change could mean a new challenge, both for the GVZ and for individual companies at the Center.



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The Need for Climate Adaptation

The effects of climate change can cause damage to the facilities, roads and railway lines of the ports and logistics sector, and hence lead to the failure of long-distance transport-related infrastructures. At the regional level, they may cause a loss in regional value creation.

Implemented Measures

- Early warning of extreme weather events
- Optimized drainage facilities
- Emergency electrical power aggregates
- Protected areas for goods and vehicles

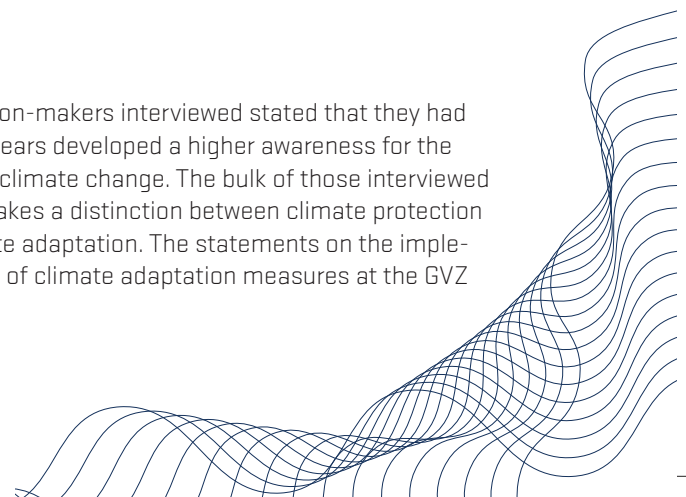
Method and State of Implementation

In order to attain comprehensive information on the possibilities for action and reaction by the regional transport and logistics sector with regard to handling the effects of

climate change, the ISL undertook an empirical investigation of the climate-adaptation and climate-protection measures implemented by the GVZ Bremen. The survey consisted of a written inquiry carried out between August and October 2011. Following up on that, more thoroughgoing interviews were conducted by experts with representatives of the transport and logistics sector. The surveys were oriented primarily toward the management level.

Results

The decision-makers interviewed stated that they had in recent years developed a higher awareness for the effects of climate change. The bulk of those interviewed already makes a distinction between climate protection and climate adaptation. The statements on the implementation of climate adaptation measures at the GVZ



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Bremen's logistics site referred primarily to future planning. When asked about measures already implemented, most of those questioned stated mentioned energy-efficiency measures. The reduction of the CO₂ footprint of the transport sector was mentioned particularly often.

The following innovative approaches to climate adaptation are planned or have already been undertaken by the companies at the GVZ: An early warning system for extreme weather events based on a mobile communication system, and optimization of the temperature-regulated cargo transport chains, taking regional climate effects into account. Among other things, optimized drainage facilities which can handle much stronger precipitation levels, and reinforced roof designs for large halls which can withstand greater wind and snow loads were tested. The parking places in the GVZ, too, have been optimized so that less damage to stored goods or parked vehicles occurs. The medium-sized hauling company Terratrans, which operates internationally, uses new reinforced canvas covers for its transports, which have a greater capacity to prevent heat or wind damage to transported goods.



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The project Climate Adaptation Measures in Light of the Practical Example of the Bremen Cargo Distribution Center (GVZ) was concluded at the end of 2012. In 2013, the results of the project were presented to decision-makers in the transport and logistics sector with the goal of developing follow-up measures and assessing priority areas for action.

Transferability

The above-named climate adaptation measures are especially usable in other logistics and cargo distribution centers. The exchange of experience with this respect is actively supported by the German GVZ Society mbH (DGG). www.gvz-org.de

nordwest2050 is one of a total of seven projects funded by the Federal Ministry of Education and Research (BMBF) in the context of the KLIMZUG Program (Klimawandel in Regionen zukunftsfähig gestalten - Creating Climate Change-Ready Regions). In 2012 **nordwest2050** was awarded as an official project of the United Nations' World Decade on Education for Sustainable Development. The goal of the adaptation research is to develop strategies and measures by means of which regions and industries can be better prepared for life and business under the conditions of climate change. This is on the one hand designed to strengthen future competitiveness, and on the other to promote the development and use of new technologies and procedures for adaptation to climate change.

