

ENERGY BARGE

Newsletter #24



Source: Port of Vienna

Welcome to the 24th newsletter of the ENERGY BARGE project!

Our partners from the Port of Vienna and MAHART-Freeport (Port of Budapest) carried out two pilot investments in the frame of the project. The objective is to increase the capacity of the two ports in terms of biomass logistics to support the development of new value chains and to demonstrate the effectiveness of small-scale pilot investments as unprecedented solutions in the respective ports.

The pilot investments were selected as a result of a market analysis and verification with the biomass industry by the participating ports. At the same time, the pilot actions aim to create transferable solutions to other Danube ports.

We hope you enjoy reading!

The team of ENERGY BARGE



The partners

There are 15 partners involved in the project from 7 countries:

7 partners from the biomass/bioenergy sector

6 partners from the logistics sector including 5 ports

3 partners from the field of research that provide either special knowledge needed for the implementation of the project (spatial modelling) or who have special knowledge and networks in their regions (biofuels and biomass).



Biomass handling in the Port of Vienna

The Wiener Hafen group is part of the Wien Holding group. With its subsidiaries it operates three large cargo terminals, including the corresponding infrastructure: Freudenau harbour, Albern harbour and Lobau oil terminal. The three ports handle around 1,000 cargo vessels per year. The Danube is used for the transport in particular for oil products, road salt, building materials and agricultural products.

The Port of Vienna aims to improve the port's overall attractiveness in terms of provided services and infra-/superstructure that are related to the handling of biomass, particularly log wood and waste wood. The port shall be equally appealing for currently existing clients from the biomass sector and offer a site advantage for project developers as well. In the past, the Port of Vienna was not able to handle biomass products on a larger scale due to a lack of necessary equipment and missing links between transshipment, storage and processing facilities.

To approach this strategic challenge, the management of the Port of Vienna decided to acquire a mobile conveyor belt system, capable to handle different types of biomass. The costs for the conveyor belt amounted to 90,000 € and additional 7,200 € for a switchbox. Costs for delivery and installation summed up to 2,500 €. It takes two employees for a smooth operation of the system. One employee operates the controls of the conveyor belt while a second employee ensures a steady supply of material. The conveyor system as depicted below is a mobile unit that can move along stationary trains for unloading.

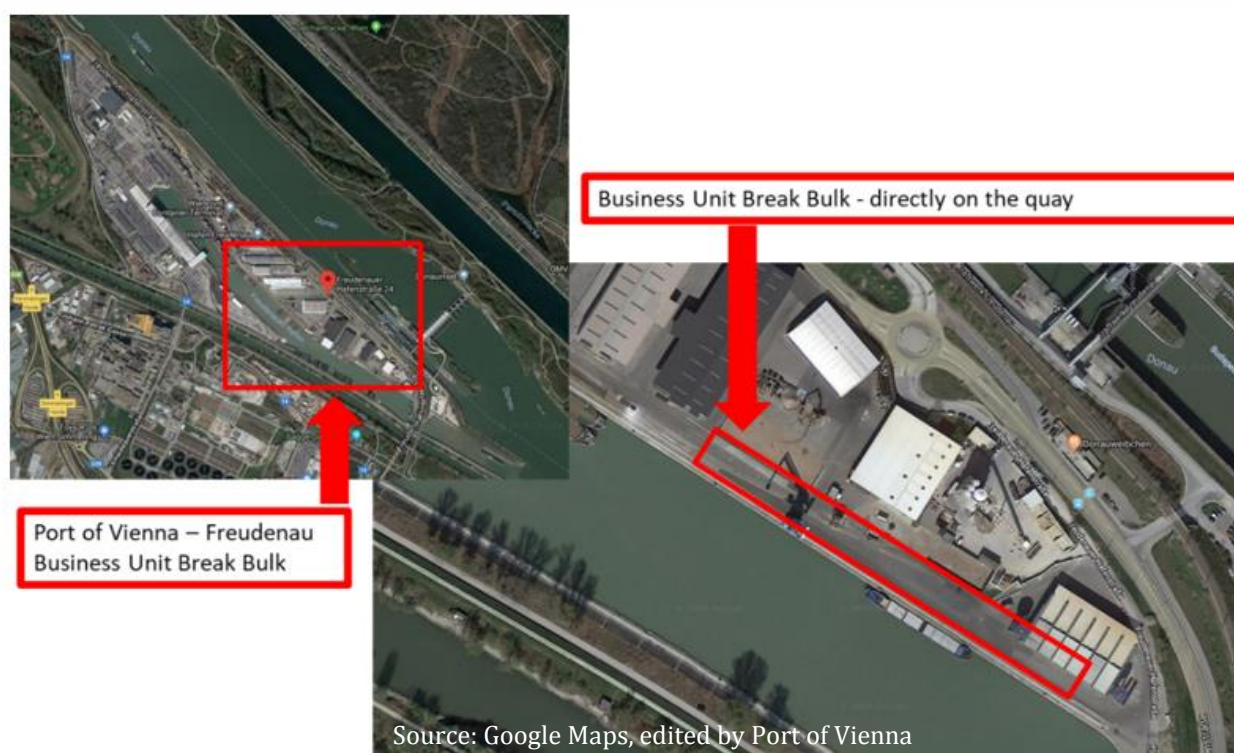


The entire system consists of five modules (unloading point; three conveyor belts; ejector for loading ships, wagons and trucks). The modules are up to 15 meters long. Initial findings suggest that the construction of the entire conveyor belt at new operation sites requires approx. two hours. In most cases, cargo vessels register at least one week in advance for unloading in the port, but in some cases vessels arrive in the port at shorter notice. In such cases, it might take too long to install the whole conveyor system so that two cranes in the port need be used for the unloading process. In case only single elements of the conveyor system are used, the installation time can be shortened considerably.



During the first months of operation, the Port of Vienna used the conveyor facility for the filling of big bags, the transshipment of goods between warehouses as well as the loading and unloading of trains and vessels to open storage spaces. Besides wood chips and waste wood, also malting barley, potassium sulphate, corn and road salt were handled in the frame of the pilot investment.

The area marked red in the figures below shows the Port of Vienna with the business unit break bulk and heavy goods. In this area, the conveyor belt is used and placed on the quayside (right figure). Lengthwise, there are track systems on the quay, which are required by the electric crane of the port. The hall in the middle on the right figure (white roof) functions as the shelter for the conveyor belt.



MAHART-Freeport – Biomass as a new cargo type

MAHART-Freeport Co. Ltd. is a state-owned company that was established in 2005. It is the owner of the land, main infrastructure and part of the buildings of the Freeport of Budapest, which is the largest Danube port in Hungary. The port can technically load and store all kinds of cargo, being a main hub on the Danube with strong rail and road connections. The most important goods that are handled in the port are oil, grain and metal products.

The biomass/bioenergy market situation of MAHART and the Port of Vienna is different. In case of the Port of Vienna, biomass has been handled in the port on a small scale and its development potential on the energy market is increasing. In case of MAHART, biomass constitutes a completely new cargo type in the port.

During the last decade, major changes took place in the Freeport of Budapest due to investments in infrastructure and network capacities and a new operational set up of the port. With the development of the Freeport, the number of tenants and the provided services increased considerably. Appr. 60 companies are operating in the port, providing a wide range of logistic-related services.

One of the future focus areas of the port is energy, which is also a key element for most of the companies in the Freeport. There are already tenants whose activities are related directly to energy (wholesaling of coal, wood drying, fuel supply of transport vehicles etc.). A safe, cost-effective and environmentally friendly energy

supply is becoming an increasingly important issue for most tenants and service providers. It is a strategic aim of MAHART to increase the freight transport volumes of the port. Biomass is considered to be cargo type of particular interest as it constitutes a bulk commodity and is not time-sensitive.

In the frame of the ENERGY BARGE project, MAHART-Freeport purchased a forklift to support the biomass loading, handling and storing in the port. The port has the basic infrastructure but specific storage facilities and equipment for biomass handling were missing. Therefore, the main goal of this pilot action is to demonstrate how the biomass handling can be launched in a port as a new service and how it can contribute to the attraction of biomass cargo. Based on the development plans and supporting financial programmes, it is assumed that the generation of bioenergy will play a major role in the vicinity of the port in the coming years. The pilot investment is preparing the port for the future development of the pellet, firewood and wood chip markets for small- and large-scale energy producers.



The forklift can be equipped with a big bag handling unit. Incoming biomass arriving in bulk form, e.g. pellets or wood chips, could be filled into big bags that are easier to be handled and stored and delivered to its final destination. MAHART will operate the purchased forklift with those tenants in the port that are involved in biomass and agricultural related activities. MAHART will organise all service and maintenance activities while the tenant's task will be to provide a driver, to take care of all related labour safety regulations and to cover the operating costs. Companies in the port already indicated their interest to operate the forklift together with MAHART.

The utilisation level of the purchased forklift is supposed to increase with the launch of further operations related to the transshipment of biomass in the port. Additional investments and activities in this context comprise e.g. the evaluation regarding an expansion of biomass storage capacities, the purchase of a conveyor belt system for the loading and unloading of vessels and railway wagons or the introduction of services like biomass drying units and a quality control system.

In the remaining project term, the project partners from the Danube logistics sector will elaborate opportunities to carry out similar investments in other Danube ports to strengthen their role as hubs for the biomass sector.

Final ENERGY BARGE conference

On behalf of the ENERGY BARGE project consortium, we would like to cordially invite you to attend the final conference on **23 May 2019 in Budapest**, Hungary.

During the conference, strategies and recommendations to improve energy security through biomass logistics in the Danube region will be presented and discussed with the audience. The project partners from the logistics sector will outline the results of their pre-feasibility studies to define development plans and investments needs to strengthen Danube ports as logistics hubs for the bioenergy sector.

The online registration for the final ENERGY BARGE conference as well as additional information on the event will be available shortly. Participation is free of charge. The event will take place at the A38 Ship Budapest, Petőfi bridge, Buda side.

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Contact :

Thies Fellenberg
Agency for Renewable Resources (FNR)
t.fellenberg@fnr.de
(Project Coordinator)

www.interreg-danube.eu/energy-barge



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