The Copenhagen Waste-bag Project

J. Helbo, P.L. d'Amore, M. Westerback, T. F. Ginman, C. Breinholt

DTU Management Engineering, Technical University of Denmark
DTU Mechanical Engineering, Technical University of Denmark

INTRODUCTION

This abstract is a short introduction to our project about waste management in Copenhagen. We have chosen to develop a new trashcan for street waste in Copenhagen, and through our research we concluded that the most efficient and cheapest way to handle waste on the street is to collect it in a plastic bag. Our job was now to design a durable, cheap and efficient tripod for the plastic bag, there visually can fit into the environment. In this abstract we will describe the solution we came up with and how we ended up with that result.

THE WASTE-BAG

Problems concerning the public garbage system in Copenhagen were uncovered during our fieldwork and research phase. In order to obtain a better understanding of the whole system, we contacted the two main actors involved – "Center for Renhold" (the cleaning department) and "Center for Bydesign" (department concerned with the overall look and appearance of the city).
The first mentioned presented us for problems concerning the garbage cans in the center of Copenhagen and in the city districts Nørrebro, Østerbro and Vesterbro. The problems here lay in the process of emptying the garbage cans which involved some safety concerns about the ergonomics of the system, but also the handling of the waste bags which potentially could contain needles and other sharp objects, making it potentially infectious for those handling the bags.
The other actor, "Center for Bydesign" expressed some concern involved with more practical solutions, rendering them less attractive from a more visual/design oriented point of view. These interesting tensions between the two main actors are the main focus in this project.

LIFECYCLE

The trashcan's lifecycle starts with the extraction of iron ore, which is processed in to low-carbon steel. The steel is processed into different components including to rods of the same shape and size, a ring and a slightly longer rod. The parts have been divided to gain the maximum advantages in the industrial production of the trashcan. The trashcan has a rather long lifespan, and is seen as a permanent solution. This lowers the demand for the ease when disposing the trashcan.
The value and function of the trashcan depends on bags being mounted on the metal ring of the trashcan. So the biggest demands are for the bags of the trashcan, which should be cheap and biodegradable. This is to secure the minimum amount of economic and environmental costs

CONCLUSION

The Copenhagen Waste-bag would not only considerably reduce the time it takes to clean trashcans. It adds a design-element that encourages people to take part in the struggle for a better environment. With no protective shell this type of trashcan can limit the amount of cleaning necessary, to an absolute minimum. All in all, this project really proves that helping the environment might be achieved by an educative design combined with thoughtfulness off ones surroundings.