

Laboratory ventilation

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INTRODUCTION

In the bachelor course 42340 "Sustainability in engineering solutions", students apply simple tools to environmental assessment of products and solutions in their life cycle. They apply methods and tools for the development of environmentally improved products and solutions in their project work, where they also consider social and management aspects of sustainability. The theme of the course is "the sustainable campus" and projects are defined by and carried out in cooperation with DTU Campus service.

Laboratory ventilation, especially hooded ventilation, constitute a very large energy consumption at DTU. What are the options to better control ventilation? What will it require in terms of equipment, maintenance etc.?

METHODS

The method is a stepwise approach to include environmental thinking in product development and is based on "Environmental improvement through product development – a guide" (McAloone and Bey, 2009), supplemented by more detailed literature on environmental assessment and on sustainability management.

RESULTS AND CONCLUSION

The project investigates the current solutions at campus in terms of their most significant environmental impacts and their causes. It presents new approaches to deliver the solutions, assess the potential environmental improvements, the economic costs, and the potential challenges in implementing the solution.

REFERENCES

McAloone, T. C., & Bey, N. (2009). *Environmental improvement through product development: A guide*. Copenhagen: Danish Environmental Protection Agency.