

# Flowguard Business Concept

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## INTRODUCTION

Fume hoods are an important part of daily operations in all chemical laboratories. Using fume hoods remain an expensive process, and each hood have an average energy consumption equivalent to 3.5 households, approximately 33,000 DKK / year and annual CO<sub>2</sub> emissions of 17 tons / year<sup>2</sup>. By closing a hood when not in use, the annual energy consumption of about 36,000 kWh<sup>3</sup> will in average be reduced by 6.956 kWh (<sup>4</sup>Newtech), which corresponds to an annual saving of 6,358 DKK and a reduction of 3.3 tonnes of CO<sub>2</sub> per fume hood.

## FLOWGUARD CONCEPT

### Value Creation

Flowguard's product is an automatic closure mechanism which ensures that the hood is closed after use. Since the solution is modular, the product can be mounted on any existing fume hoods, which distinguishes the concept from existing solutions in the market. The basis is a concept of robust sensors and mechanisms that ensure a reliable solution. If product and service are sold for 10,000 kr, the customer will have repaid the investments made already within two years. If any repayment plan agreed with the customer, the customer can save money from the very first electric bill. Besides from the obvious sparing of the environment, the customer, especially large companies and universities, can brand themselves to be greener organizations.

### Scaling Potential

The amount of fume hoods in Denmark is estimated to be 15.000. Assuming a small market penetration rate of 10%, it amounts to a total of 1.500 units sold in Denmark. With a retail price of 10,000 kr this will generate a turnover of 15 million kr. While this is a good start, the market is not large enough in Denmark to make it a sustainable business. But if the concept is taken abroad, vast amounts of scaling is possible.

## REFERENCES

<sup>4</sup>Newtech, Final Report v10\_peer reviewed.pdf, see <http://newtechtm.com/html/literature.html>