



Do you know what you burn?

Online sampling solutions for biomass industry



Prometec

Energy
Efficiency
Solutions

Case: Fjernvarme Fyn

Fjernvarme Fyn

SCOPE:

- Automated sampling and online moisture measurement system
- Sampling building
- Automated bagging machine



CASE INTRODUCTION

In recent years, the demand for renewable energy sources has increased significantly. Biomass, which refers to organic materials such as wood chips, sawdust, forest and agricultural residues, is one of the most promising renewable energy sources due to its availability, low cost, and carbon neutrality. However, the quality control of biomass is a critical issue as it directly affects the efficiency and environmental impact of the energy production process.

To address this issue, we have developed a turnkey solution that includes a sampling building, automated sampler, online moisture measurement system, operational container, and automated bagging machine. The revolutionary feature of our solution is the online measurement of moisture content from each truckload of biomass before unloading, which is made possible by our automated sampler. This case study will explore the benefits and possibilities of our solution, as well as the reasons why our client decided to invest in it.





36h → 6min

TIME SAVINGS IN QUALITY CONTROL

Traditional biomass quality control involves collecting samples, handling them, analyzing and drying them, and inputting the results into a database. This process typically takes about 36 hours to complete. However, our automated sampler can do all of this in just 6 minutes, providing substantial time savings for our clients.

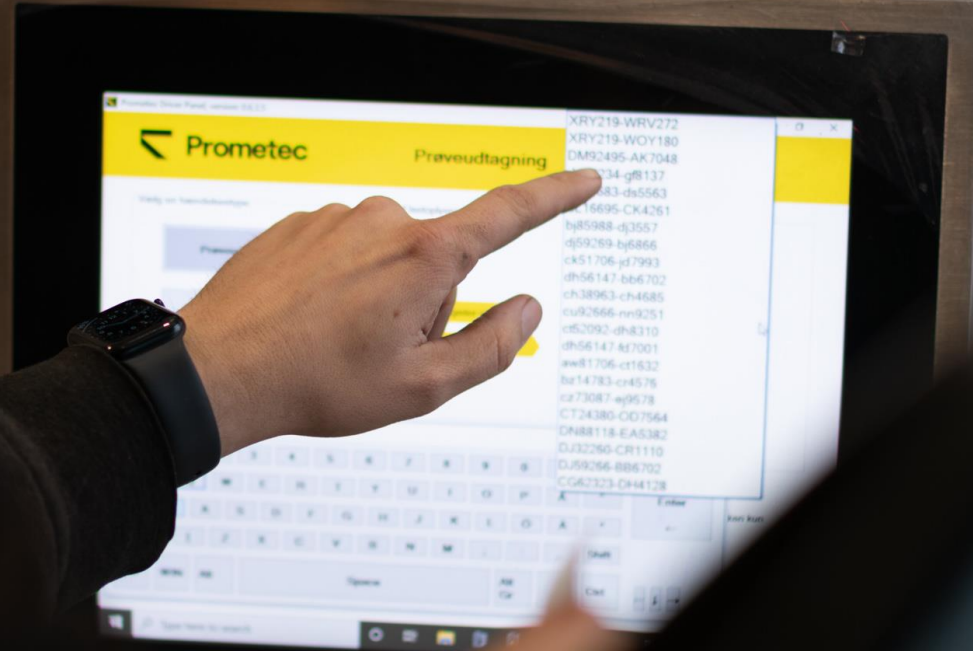
REPRESENTATIVE SAMPLES AUTOMATICALLY

The automated sampler Q-Robot M takes samples from each truckload of biomass before unloading and ensures their representativeness, thus eliminating the possibility of biased or inconsistent sampling.



IMPROVED OCCUPATIONAL SAFETY

Manual sampling can be hazardous, especially in outdoor environments or in the presence of dust or other contaminants. Our automated sampler eliminates the need for manual sampling, thereby improving occupational safety. A truck driver can simply start the sampler from the touch panel.



OPTIMIZATION OF LOGISTICS AND COMBUSTION

By providing online moisture measurements, our solution allows clients to optimize their logistics by directing the incoming biomass to the appropriate storage location or processing unit.

Online moisture measurements can also help optimize the combustion process by providing information about the energy content of the biomass and its combustion characteristics before unloading.



WHY FJERNVARME FYN INVESTED IN AUTOMATED SAMPLER AND ONLINE MOISTURE ANALYZER

Optimization of Entire Fuel Reception Process: “We wanted to optimize and improve our total fuel reception process, which involves receiving, sampling, moisture measurement, and storing biomass. Prometec provided a turnkey solution that streamlined the entire quality controlling process and ensured the quality, safety and quickness of the entire biomass controlling process.”

Automatization of Sampling: “We wanted to automate the sampling process to improve occupational safety and make the sampling quicker. Automated sampler eliminated the need for manual sampling, thereby improving safety. Also, the big thing for us is that Q-Robot M can provide online moisture measurements which reduces radically the need for manual laboratory work.”

Increased Representativeness of Samples: “We wanted to increase the representativeness of samples to ensure that the quality control results were accurate and reliable. The automated sampler ensured the representativeness of samples and eliminated the possibility of biased or inconsistent sampling.”

Thomas Knudsen
Project manager
Fjernvarme Fyn