

## MASSIVE ENERGY SAVINGS AND ADDITIONAL PRODUCTION IN DALUM PAPER, PM 7 AFTER DRYING SECTION VENTILATION REBUILD

Before ventilation rebuild, Dalum PM 7 suffered from several problems. Firstly, the hood humidity level was very high. Condensation in the hood caused corrosion in the drying section and hood constructions, and falling water drops led to paper defects.

Secondly, the pocket humidities were very high, which was causing uneven moisture profiles, poor evaporation and loss of drying capacity.

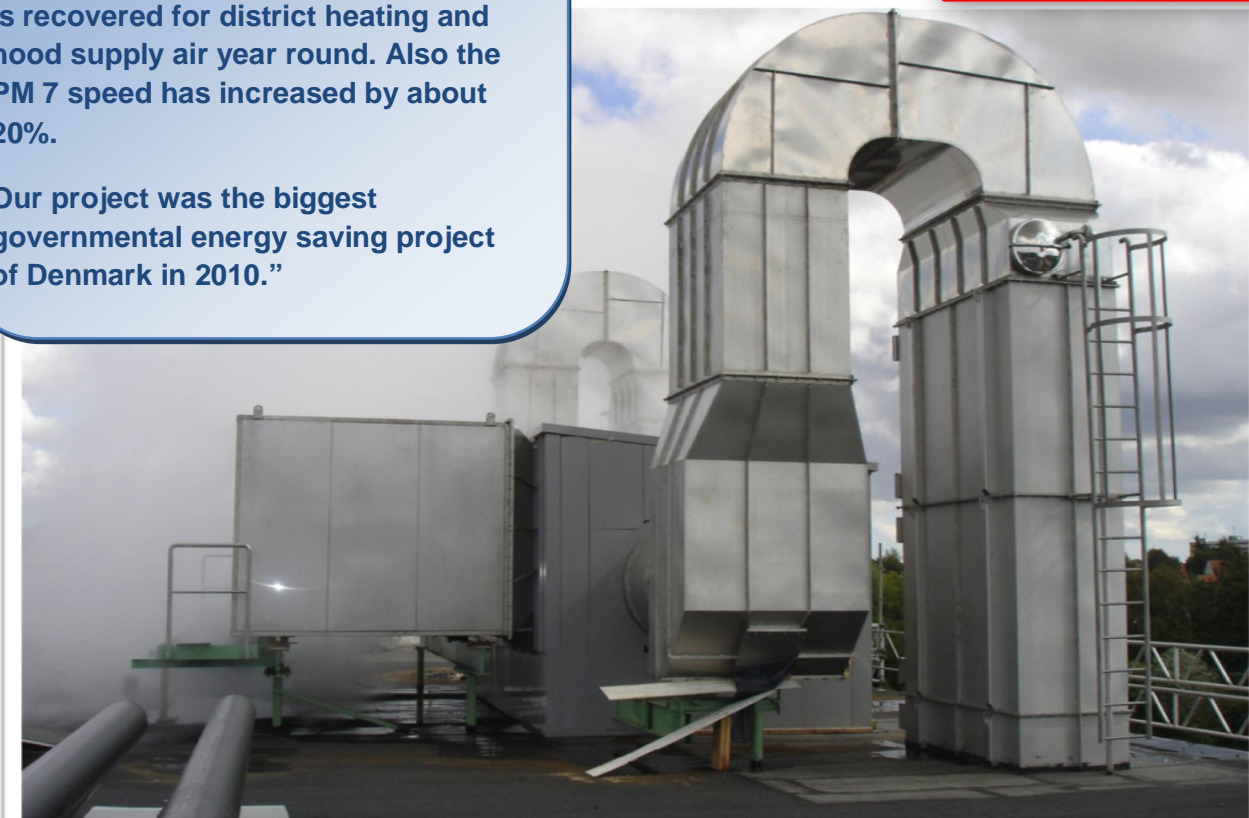
All these ventilation problems resulted in massive heating energy and production losses.



Production Manager, PM 7, Mr. Christiansen:

**“Now 65% of the PM 7 heating energy is recovered for district heating and hood supply air year round. Also the PM 7 speed has increased by about 20%.**

**Our project was the biggest governmental energy saving project of Denmark in 2010.”**



Dalum PM 7 ventilation rebuild was completed in autumn 2010. The project included:

- Modern heat recovery with air/air and air/water heat exchangers
- Hood exhaust units

- Condensate and steam coils, supply air fans
- EVpv Pocket Ventilators
- EVst Ventilators /Web Stabilizers
- EVp Web Stabilizer

Survey services for the PM 7 problems analysis and action plan as well as all different project phases were performed by EVG.

### Results in Energy Saving

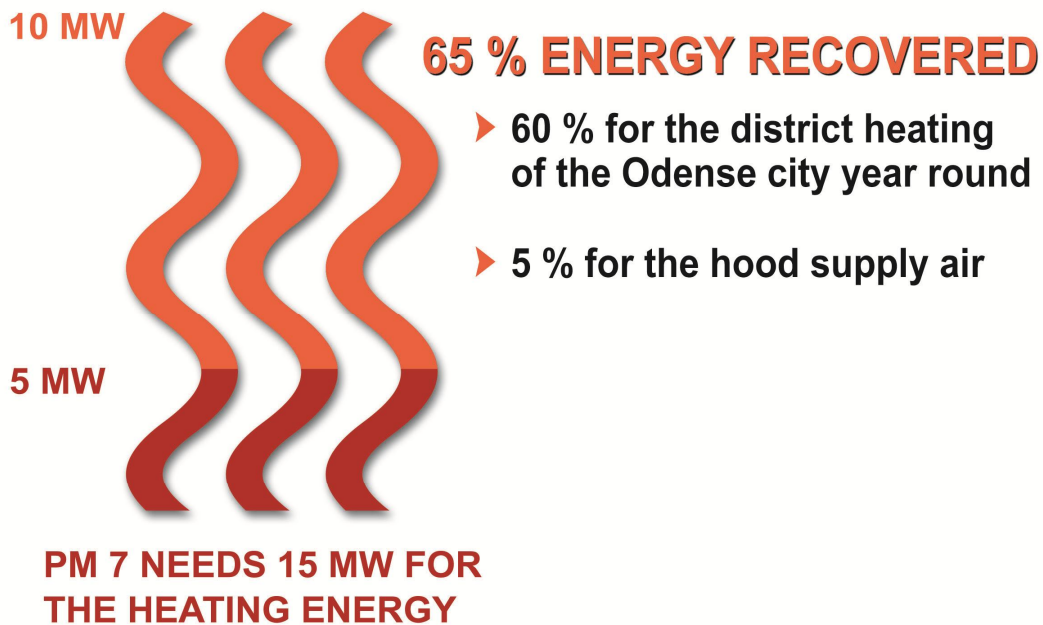
PM 7 needs 15MW for the heating energy. After the drying section ventilation rebuild, 65% (10MW) can be recovered.

60% (9MW) of the recovered energy is used for the district heating year round, and 5% (1MW) is used for the hood supply air.

PM 7 needs now also 10% less steam consumption in drying.



*PM 7 recovers now 10 MW of heating energy. The same amount of energy could be produced with 16-17 big wind mills.*



### Also Additional Speed for PM 7

Drying section ventilation rebuild also enabled speed increase for the PM 7.

The speed increase varies from 18% to 20% depending on the produced grade and means remarkable additional production for the mill.

