



# Performance improvement through steam-net optimisation

CASE 3: INSTALLATION OF A STEAM-NET CONTROL SYSTEM TOGETHER WITH A STEAM ACCUMULATOR

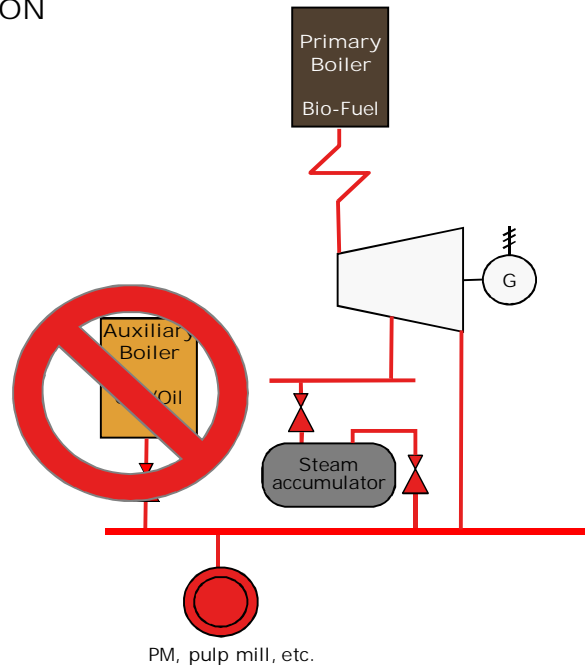
MIKAEL MAASALO, SENIOR PRINCIPAL, POWER PLANT CONTROLS

All rights reserved. No part of this document may be reproduced in any form or by any means without permission in writing from AFRY.

Copyright © AFRY

# Unnecessary use of gas may be stopped by improved controls and steam accumulator installation, resulting in annual savings over EUR 2 million

## INTRODUCTION



The industrial power plant investigated was able to produce all steam with cheap, carbon-neutral fuels (recovery boilers and hog fuel boiler). Yet an auxiliary gas boiler was kept running in order to stabilise steam headers, since the steam consumption fluctuated heavily.

## SUMMARY

Client:  
Pulp/paper mill

Project:

- Develop an optimal control concept for the power plant
- Reduce operating costs by automating the operation and putting the auxiliary boiler in stand-by mode
- Determine dimensions for a new steam accumulator

## Key findings and results:

Modernising power-plant steam-net controls together with a steam-accumulator installation make it possible to put the auxiliary boiler safely into stand-by mode. This reduces annual operating costs by over EUR 2 million.

## Highlights and lessons learned

### ORIGINS OF SAVINGS

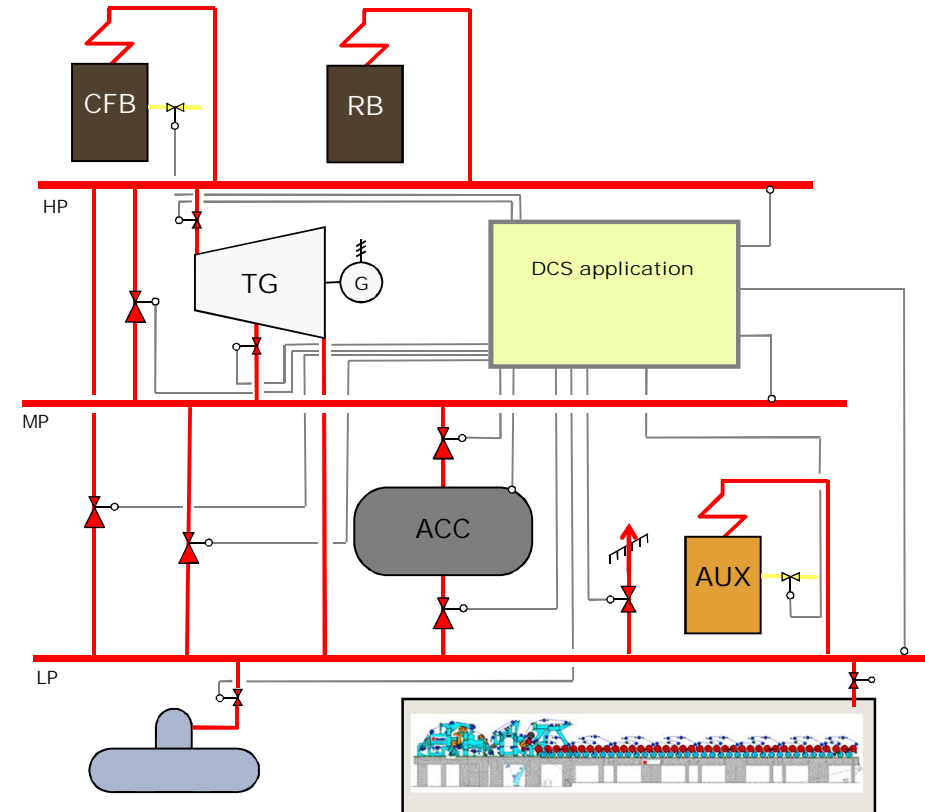
- Results showed that the steam-net control system installation together with a steam accumulator is highly feasible
- Calculating the savings for the implementation were straightforward: having the auxiliary boiler in stand-by mode cuts down plant fuel costs according to its annual gas usage
- Other savings come from reduction in steam venting during the paper machine web breaks

Operating profile is very common and there are a significant number of power plants that possess this potential

### Implementation includes

- steam-net control-concept modernisation
- a steam accumulator installation

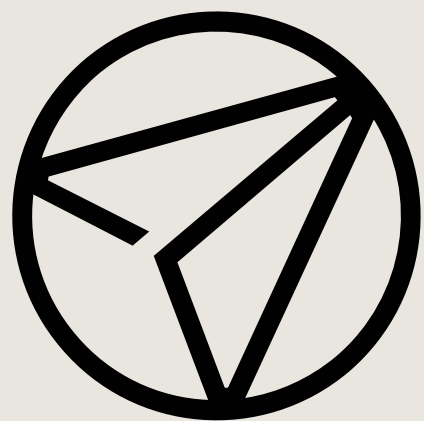
### MODERN STEAM-NET CONTROL CONCEPT



# Contacts

MIKAEL MAASALO  
Senior Principal,  
Power plant controls

Jaakonkatu 3, 01620 Vantaa | Finland  
[mikael.maasalo@afry.com](mailto:mikael.maasalo@afry.com)  
+358 50 412 2887



AFRY

ÅF PÖYRY