

# Power Plant Chemistry in Finland – an overview

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The following three questions were asked from Finnish colleagues involved in power plant operations:

- 1) *Could you list some **power plant chemistry** issues you've been dealing with lately?*
- 2) *Could you list some **water chemistry** issues you've been dealing with lately?*
- 3) *What are the **chemistry** related hot topics in Finland at this moment from your perspective?*

# 1) Could you list some **power plant chemistry** issues you've been dealing with lately?

- \* Valuing the performance and reliability of operation of a Dry Pac desulphurization unit, introduction of improvements.*
- \* Auditing the preservation methods of hot water boilers and water-steam cycles.*
- \* Modelling of power plant systems using on-line process data and early detection of evolving problems by neural pattern recognition application.*
- \* Ongoing studies of utilization of ashes from power plants.*

# 1) Could you list some **power plant chemistry** issues you've been dealing with lately?

- \* Analysis of coal samples, where and by who?  
- Eurofins is currently a very big player in the field of water and fuel analysis.*
- \* How to deal with questions generated by commissioning of new power plant units and aging of currently used old units.*
- \* Stricter future emission limits, a need for deNOx-equipment, utilization of byproducts.*

## 2) Could you list some **water chemistry** issues you've been dealing with lately?

- \* 2 x Flue gas condensate water treatment equipment*
- \* 2 x Design and purchase of a new sampling station.*
- \* Microbial activity in district cooling water and equipment needed for correct water treatment.*
- \* Water chemistry of cooling cycles.*
- \* Water balances of couple of sites.*

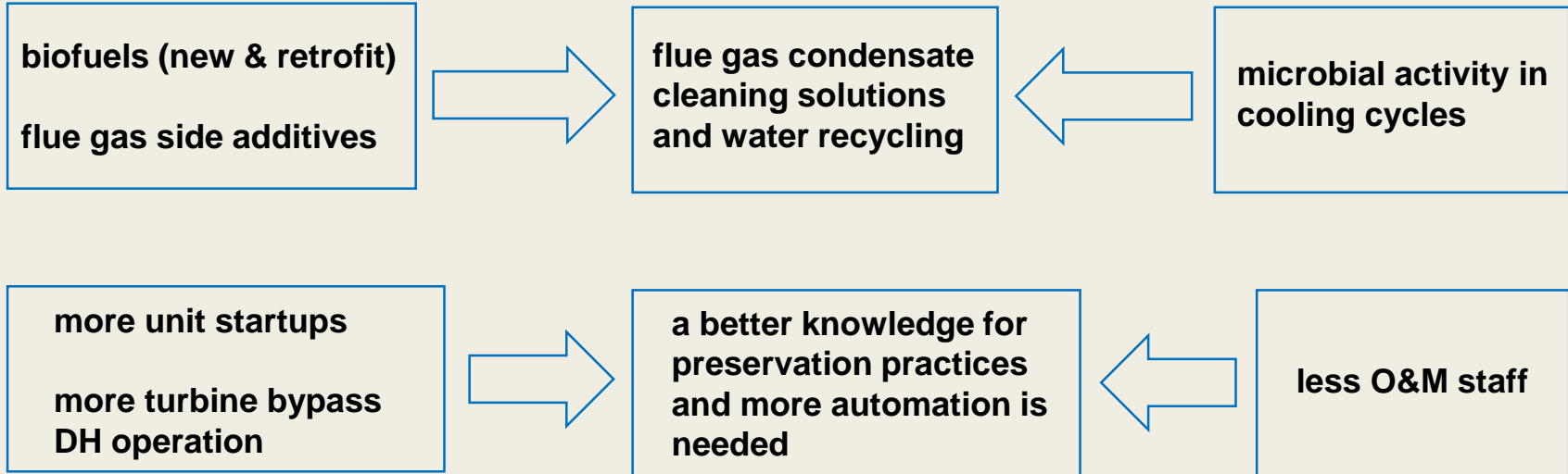
## 2) Could you list some **water chemistry** issues you've been dealing with lately?

- \* Introduction of low salinity raw water for ion exchange unit, what kind of technical improvements are needed?*
- \* Preservation of boilers, treatment of chemical cleaning waste water, use of film forming amines.*
- \* Effects of a larger modification of tubing construction on water chemistry and ways to deal with those effects.*
- \* The need and proper use of oxygen scavengers.*

### 3) What are the **chemistry** related hot topics in Finland at this moment from your perspective?

- \* 4 x Retrofitting biofuel firing in (typically) coal boilers, equipment needed for better emission control.*
- \* 4 x Flue gas condensation and recycling of flue gas condensate.*
- \* Preparing for a conclusion of peat firing in biofuel boilers.*
- \* More diverse and downsizes locally solved energy solutions.*

## Couple of ways to simplify what's going on in Finland:





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